

The Dental Digest

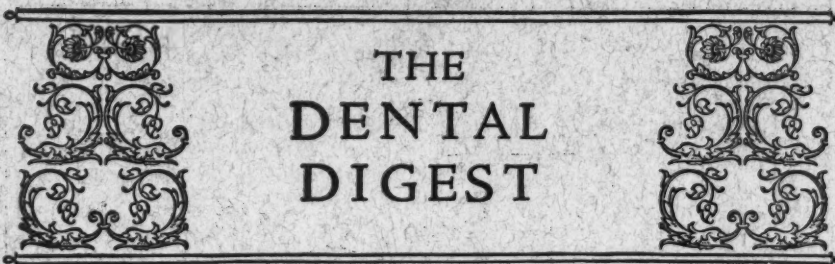
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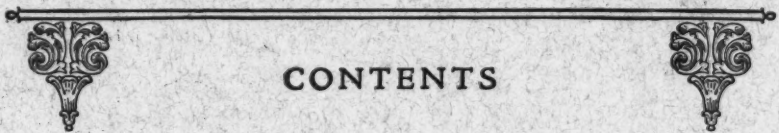
Editor~

GEORGE WOOD CLAPP, D. D. S.

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THE DENTAL DIGEST
GEORGE WOOD CLAPP, D.D.S., EDITOR
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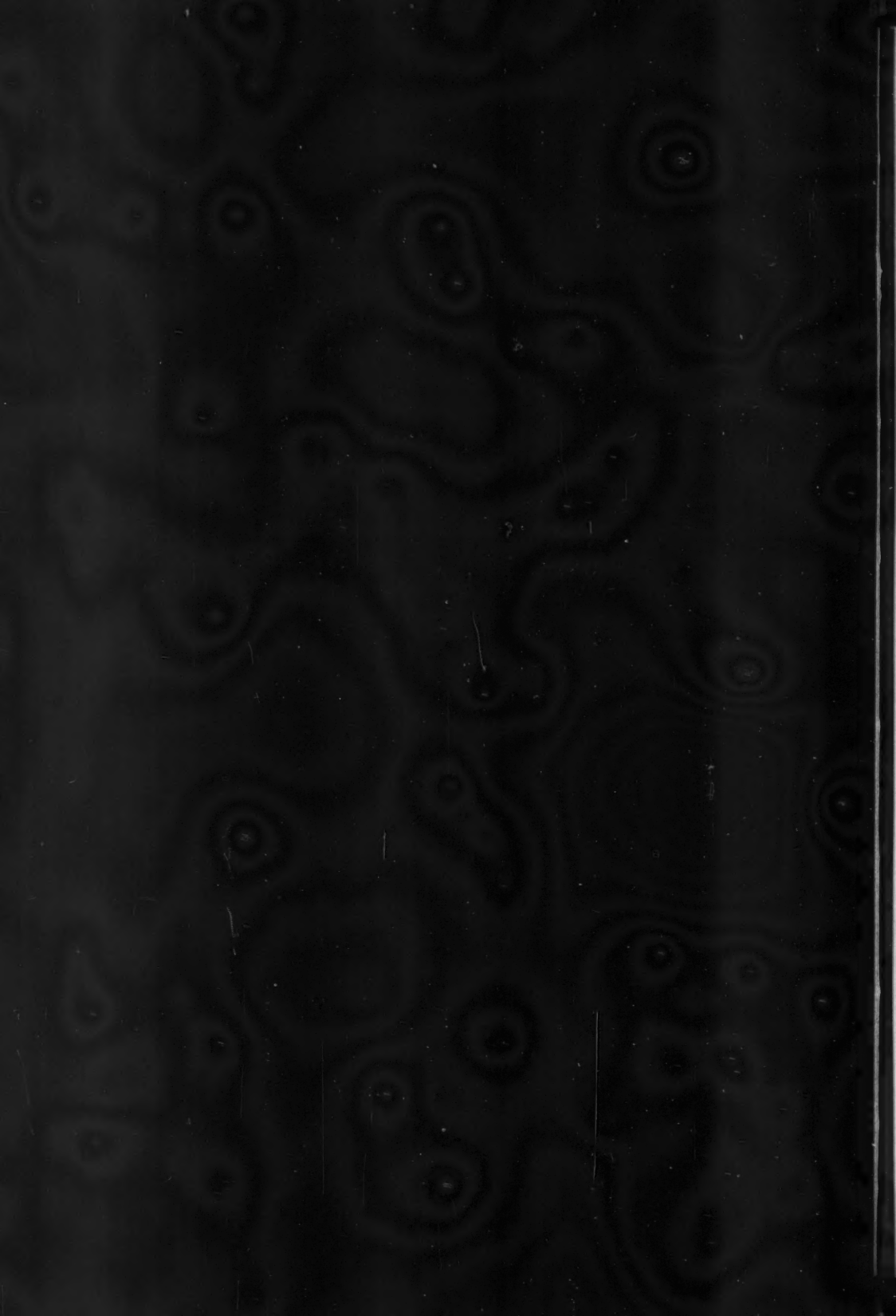
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THE DENTAL DIGEST

VOLUME XXXVI

MARCH, 1930

NUMBER 3

Dental Infection and Systemic Disease*

By ISRAEL S. MILLER, D.D.S., New York, N. Y., and Jersey City, N. J.

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I deem it a privilege to have been asked to discuss with you a subject of common interest to both physicians and dentists, and I am glad to have this opportunity to talk on dental infection and its relation to systemic disease.

Dr. Charles H. Mayo has recently been quoted as saying that people of the future would die not of plagues but of focal infection, and that 87% of all deaths were due to infection. If that is true, progressive physicians are interested, therefore, in all the possible portals of entry of bacteria that are offered by the body. "Considering the human body, we can distinguish the outer surfaces of the skin and the adjoining mucous membranes and three vast internal surfaces forming, first, the respiratory tubes; second, the digestive system; and third, the genito-urinary system. Nearly all of these surfaces are inhabited by innumerable organisms which live harmlessly upon the body, but some of which may invade and even destroy the host, should the occasion present itself."

The opportunities for the inception and progress of infection in and about

the teeth and gums are unusually good and are widespread for the reason that these tissues are constantly subject to mechanical, chemical and thermal irritants, thereby giving the bacteria their first hold. It is now a well established fact that this infection can act as a focus for systemic disease. However, in spite of all the bacteriological, clinical and pathological proof that has been accumulated on this subject during the past twenty years, there are those of us who are inclined to minimize and overlook its importance. It is therefore timely to review the exact nature of dental infections and the most frequent types of systemic disease with which they may be associated.

NATURE OF DENTAL INFECTIONS

There are two paths by which bacteria break through the protective lining of the dental arches. The first is by bacterial penetration through defects in the crown of the tooth produced by caries, abrasion, erosion or accident. The second break is in the epithelial covering, occurring at the junction of the gum and the crown of the tooth.

In the first path the infection travels through the dentin, invading the pulp and going through the apex of the root

*Read before a joint meeting of the Bayonne Medical Society and the Bayonne Dental Society, March 18, 1929, at Bayonne, N. J.

into the periapical area. When infection is inaugurated at the gingival margin, it continues along the periodontal membrane, infecting the bone of the alveolar process, destroying it and exposing the cementum. There is a pocket formation terminating even in the involvement of the apex of the tooth and strangulating the dental pulp, which then becomes infected.

It is clear, then, that a focus of infection may be established at any point or points along these two paths and not just at the apical area or in the gums, as is the common notion. We can therefore have infection at the gum margin, the crest of the alveolar process, the pericemental membrane, the side of the alveolar process, the dental pulp, the apical pericementum and the apical area. Each of these can act as a focus of infection individually or they can act so collectively.

DIAGNOSIS

In the diagnosis or detection of these points of dental infection it must be remembered that, while radiographs will aid in the detection of most of them, they will not disclose a marginal gingivitis, an infected pulp or a certain type of pericemental involvement. We must resort, therefore, to clinical procedures in addition to the x-ray in order to avoid missing any involved tissues.

In making a diagnosis of dental infection we must include the following steps: (1) inspection, (2) exploration, (3) dental history, (4) radiographs, (5) special tests for pulp vitality, (6) palpation, (7) percussion, (8) study models, (9) taking of smears, (10) inquiry as to the general health, with a recommendation for a physical examina-

tion when needed. Now, once infection is established in the dental tissues (always including the supporting structures of the teeth, gums, alveolar process, etc.), systemic disease develops in one or all of three ways: (1) by absorption of the toxins produced by the bacteria at the primary lesion, (2) by invasion of the blood stream by the bacteria and secondary localizations, (3) by continuity of tissues.

DENTAL INFECTION AS A CAUSE OF SYSTEMIC DISEASE

That dental infection can cause systemic disease is not so modern a view as we are sometimes led to believe. That was pointed out recently by Arthur D. Black in a reference to an article in *Scribner's Magazine* for September, 1923, by Professor A. T. Olmstead on *The History of Ancient Assyria*, containing a translation of certain tablets that were discovered in a recent excavation. These tablets were written about 650 B. C., and on them there was recorded the illness of the then king of Assyria, who called upon his physician for an explanation of the fact that he had not recovered as soon as he thought he should. The physician told the king of certain things he must do in order that his fever might leave him and his health be restored, and, after giving certain other directions, his statement closed with these words: "The pain in the king's head, in his body, and in his limbs comes from his teeth and they must be extracted." That was about twenty-five hundred years ago.

The diseases commonly associated with oral sepsis may be conveniently discussed under four headings, according to Crookshank:

(1) Local disturbances of the mouth and associated parts.

(2) Diseases of the gastro-intestinal tract.

(3) Diseases of the respiratory tract.

(4) General states affecting the endocrin, nervous and other systems arising from absorption or infection.

LOCAL DISTURBANCES OF THE MOUTH

Considering the first group, we find that various forms of tonsillar and pharyngeal disturbances occur, with sometimes an extension to the Eustachian tube and middle ear. Chronic glossitis is set up, which may result in cancer. Steno's duct is sometimes involved, and acute and chronic infections of the parotid gland follow.

Acute cellulitis may involve the cervical tissues and set up a Ludwig's angina. Erysipelas and Vincent's angina are regarded as secondary to gingival infection. Oral sepsis aggravates the angina of scarlet fever and diphtheria.

Quoting Crookshank—"Oral sepsis spread by certain routes leads to infection of the maxillary and other sinuses; in the latter case ocular troubles may ensue, but the connection of these with oral sepsis, apart from obvious orbital cellulitis, is well recognized. Lang has elucidated the connection of optic neuritis, retrobulbar neuritis, interstitial keratitis, scleritis, episcleritis, iritis, iridocyclitis (with cataract and glaucoma), choroiditis of different forms, and progressive myopia, with oral sepsis."

Implications of the submaxillary and submental lymphatics, which spread to the cervical glands and later to those in the mediastinum, may attract attention if acute and do much damage if chronic.

A simple chronic lymphadenitis from oral sepsis is sometimes followed by tuberculous disease or by lymphadenoma. The importance of the connection between oral sepsis, chronic lymphadenitis and chronic mediastinitis, leading to pulmonary and cardiac complications, I believe to be very great. The association is probably at the bottom of not a few of the chronic degenerative intrathoracic affections.

DISEASES OF THE GASTRO-INTESTINAL TRACT

Passing to the gastro-intestinal system, we note first the hindrance to efficient digestion that arises from the conveyance of septic filth and cellular debris with organisms of all kinds into the stomach itself. Vital and chemical activity is hampered, and first the stomach walls and later those of other stretches of the alimentary canal become catarrhal, inflamed, and perhaps atrophied. Clinically we recognize various types of septic or fermentative dyspepsia as associated with gastric dilatation. Acute ulcer is probably often a result of the septic infection of a small or microscopic trauma; chronic ulcer is aggravated by gastric sepsis. Not only duodenal ulcer, but duodenal catarrh also is related to oral sepsis, and, once the duodenum is unhealthy, the gall vessels and liver become easily involved, leading to gall-stones and various infective and degenerative conditions. The liver, like the thyroid and other organs, has a definite part to play in defense against toxins and microorganisms. We cannot forget this in considering the causes of functional failure and organic change in these organs.

It is practically certain that some of the forms of acute and chronic pancreatitis are the results of ascending infection of the pancreatic ducts. So perhaps we have one explanation of the constant association of oral sepsis with diabetes. Except in children, diabetes is rarely seen in persons who have clean mouths.

Chronic enteritis is often an extension of what is present in the stomach and duodenum; the appendix is a lymphatic accessory of the bowel, in effect, and is affected by what affects it. There is no doubt of the close association of many forms of colitis with oral sepsis. Here the clinical evidence is very strong, except of course in respect to the purely nervous cases. A remarkable fact is that anal piles and other affections are often associated with oral sepsis, and this may be diversely explained.

The fact that cancer supervenes in tired tissues, the subject of long-continued irritation, must not be forgotten when we seek into its remoter antecedents, while constipation in some of its more severe as well as in its milder forms is sometimes the result of a neuromuscular debility that is in part the consequence of long-continued poisoning or tissue infection by septic organisms.

DISEASES OF THE RESPIRATORY TRACT

While there has been on the part of many very full admission of the part played by oral sepsis in the production of disease of the alimentary system, recognition of its relation with disease of the respiratory system has been less full. Certain diseases of the alimentary system are connected with sepsis of the nose and adnexa.

Still, oral sepsis has much to do with respiratory disease. The route to the lungs, via the cervical lymphatics, the mediastinal glands and the pleural spaces, has already been pointed out. There is also the direct route, followed by aspirated material, especially when mouth-breathing continues during sleep.

Certainly the dangers of oral sepsis via the respiratory system are much greater in those who are already the subjects of nasal obstruction, of asthma, and the like—so much must be admitted. Under these circumstances chronic laryngitis, bronchitis and bronchiolitis may become established, entailing bronchiectasis and other chronic conditions, as well as the liability to acute intercurrent maladies.

A special liability to respiratory complications affects those who submit to surgical operations requiring oral administration of anesthesia while suffering oral sepsis to continue, *and those surgeons lose most patients who neglect to assure themselves of the mouth condition before operating.*

Even if we disallow the influence of oral sepsis in paving the way for infection by the bacillus tuberculosis, we cannot deny that fatal tuberculosis of the lungs is frequently the result of a mixed infection, in which streptococci from the mouth are accomplices, while pulmonary streptothricosis seems to be definitely a gum infection at first. Gangrene of the lungs and septic or putrid bronchitis are secondary lung conditions often associated with oral sepsis of the fuso-spirillary type.

GENERAL CASES ARISING FROM DENTAL INFECTION

The results of generalized blood in-

fection cover almost too wide a field for easy exploration. But we must recognize, in the first place, a more or less definite form of debility, with malnutrition, anemia and slight fever, that is a result of oral sepsis. In other cases certain so-called cryptic forms of septicemia and pyemia are dental in origin. The grave form, known as malignant, septic or ulcerative endocarditis, is certainly sometimes due to blood infection from the teeth and gums.

Since the work of Hunter some twenty years ago increasing attention has been given to oral sepsis in connection with grave anemia. We now distinguish (1) simple secondary anemia, associated with oral sepsis; (2) grave septic anemia, certainly due to mouth infection; and (3) hemolytic (pernicious) anemia, with glossitis also but less definitely or directly, associated with oral sepsis.

In connection with these blood states we may speak in general terms of various degenerative conditions of the heart walls and of the blood-vessels, as well as with toxic neurosis of the heart and other organs. These toxic blood states may also be invoked to explain, and probably with reason in part at least, certain neuroses and psychoses of central origin, as well as some forms of neuritis. The fact that certain degenerative diseases of the spinal cord are associated with severe anemias has led to consideration of the influence of oral sepsis on cord and nerve degeneration.

Among the discords of metabolism that appear to be connected with oral sepsis gout seems to hold a place, though in this respect its influence is perhaps only indirect.

The joint troubles consequent to oral sepsis are often very serious. In acute rheumatism it may be that the infection we believe to be present occurs by way of the mouth. In some other joint affections it certainly does. We may distinguish (1) the obvious septic arthritis, (2) rheumatoid arthritis, and (3) osteoarthritis. It is with the two last that we are now most concerned.

Rheumatoid arthritis occurs in several clinical forms, but it is rarely that some septic focus, some source of chronic infection, cannot be discovered. Very frequently this is in the mouth. In osteoarthritis mouth infection is often present, but the beneficial results of dental treatment, though important, are less happy than is often the case in rheumatoid arthritis. A rough distinction between rheumatoid arthritis and osteoarthritis may be made in saying that the former affection is generally polyarticular and involves small joints with marked periarticular changes, while in osteoarthritis one or more large joints are implicated and there is bony and cartilaginous change. Rheumatoid arthritis is often more purely septic than is osteoarthritis in its origin; the latter malady is often connected with mechanical stresses, static or traumatic. Fibrosis in the region of joints is frequently toxic or septic in origin.

While it is true that some, nay, many, of these joint affections are properly traceable to oral sepsis, it must be frankly admitted that the hope of cure sometimes held out, if wholesale extraction be permitted, is really not justified. It is right to cut off the further supply of sepsis, but too often irreparable damage has been done to the joints before dental treatment is carried out.

CASES OF DENTAL INFECTION WITH SYSTEMIC INVOLVEMENT

Case 1.—H. J., male, aged 37, in good health, presented with the symptoms of a mild pulpitis in the right maxillary cuspid, which was carious. Eugenol and alcohol were sealed in the cavity. All painful symptoms then disappeared. The pulp was capped and the cavity filled with synthetic. The patient was warned that the pulp might eventually die, and that within four to six months the vitality of the pulp might better be tested. The patient returned eight months later and complained of

and a germicidal dressing sealed in. The patient felt immediate relief from the headache and said so.

Symptoms of headaches had not returned eight days later, but some dizziness was experienced. At the next visit, a week later, a slight tenderness over the apical area of the tooth still persisted. The root canal was filled at this time. The dizziness disappeared entirely. Tenderness of the cervical area also disappeared ten days thereafter.

Comment: Absorption of toxins from the infected pulp undoubtedly caused the systemic symptoms, which disappeared upon the removal of the cause.



Fig. 1

The radiopaque area about the apical area of the right maxillary cuspid indicates infection resulting from the death of the pulp. Systemic symptoms that had developed disappeared upon proper root-canal treatment.

the following systemic symptoms: dizziness morning and night, and severe headaches. The patient looked pale and sickly and had a depressed feeling. Locally the apical area of the right maxillary cuspid and the right cervical region were tender to pressure with the finger. Vitality tests with the ethylchlorid spray and a hot spatula gave no response. Radiographs showed evidence of rarefaction in the periapical area (Fig. 1).

The tooth was opened, the putrescent pulp removed, the root canal sterilized,

This was accomplished without removing the tooth.

Case 2.—L. W. B., 38 years old, sent by his physician for dental treatment. He was suffering from chronic colitis. Radiographic, clinical and bacteriological examination of his teeth and mouth revealed a severe marginal gingivitis due to a spirochetosis. The gingival crevice was full of a heavy bacterial growth, which also covered most of the crowns of the teeth. The left maxillary central incisor contained an inadequate root-canal filling. Posteriorly, on the

right and left maxillary and left mandibular regions, there were three bridges present which the patient had carried for some eight years. They were of the fixed type, retained with gold shell crowns. The pontics were unbiological, and the occlusal surfaces were too narrow. Masticating efficiency, therefore, was very low. Periodontal treatment, in accordance with our standardized procedure, was instituted. The response was satisfactory. The bridges were replaced with adequate removable appliances. No symptoms of colitis have at this date returned.

Comment: The combined effects of the absorption of toxins from the infections in the gingival crevice and insufficient mastication, due to a lack of proper occlusal surfaces in the molar region, apparently caused the chronic colitis. This disappeared upon removal of the cause. (Fig. 2.)

* * * * *

STEPS IN A STANDARDIZED PROCEDURE FOR THE EFFECTIVE CONTROL OF PERIODONTAL DISEASE

1. Diagnosis.
 - A. Determine state of general health.
 - B. Visual and digital examination, pulp vitality tests, etc.
 - C. Radiographs.
 - D. Study models.
 - E. Smear.
2. Balancing of Occlusion.
 - A. Centric.
 - B. Incisive.
 - C. Left excursive.
 - D. Right excursive.
3. Instrumentation.
 - A. Conservative.

Removal of calculus, root planing, and removal of epithelial lining of pocket.
 - B. Radical.

Gingivectomy and curettage of bone in chronic deep pockets.
4. Mouth Hygiene and Tissue Stimulation.

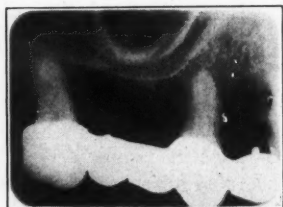
Teach a definite toothbrush technique for securing health and maintaining same in the periodontal tissues.
5. Consult regarding necessary restorations. Make sure they will conform with the health requirements of the periodontal tissues.
6. Periodic Prophylactic Treatments.

Have an understanding in advance regarding the necessity for returning for checking up, etc.

* * * * *

Case 3.—Mr. L. F., in very good health, a well developed man, aged 46, presented December 12, 1928, complaining only of tenderness in the region of the submaxillary lymphatic glands, a bad taste and profuse bleeding of the gums. Clinical, microscopic and radiographic examination revealed severe marginal and cemental gingivitis, with slight involvement of the alveolar crest. No visible pus was present, but a 4+ Vincent's was revealed by smears. No mobility of teeth was present. The occlusion was good, but the contact points were defective at the second premolar of the right maxilla. Periodontal treatment was instituted, following the standardized procedure. All cervical symptoms disappeared, as well as the bleeding and bad taste, the periodontal tissues assuming a healthy appearance.

FIGURE 2—UPPER



No. 1



No. 2



No. 3



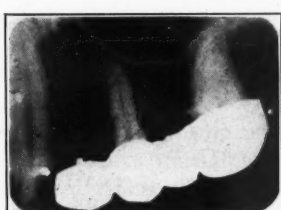
No. 4



No. 5



No. 6



No. 7

Case 4.—Mrs. L. S., aged 30, was referred by her physician for dental treatment. She was suffering with a corneal ulcer that refused to respond to routine treatment. Radiographs revealed involvement of the crests of the alveolar process of the mandibular second molars mesially. Clinically the gingivae appeared anemic and a small amount of pus was produced, upon pressure, from the gingival crevices about the posterior teeth and lingually about the maxillary

anterior teeth. Treatment was instituted in accordance with our standardized periodontia procedure. At the date of this writing, some four months after the treatment was completed, the corneal ulcer has completely healed.

Case 5.—Mr. L. B., aged 52, suffering with sciatica, was referred by his physician for examination. Complete radiographs revealed alveolar resorption about the maxillary posterior teeth. Clinically a marginal and cemental

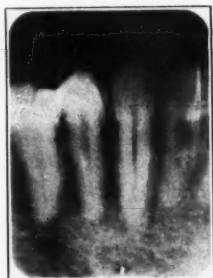
FIGURE 2—LOWER



No. 8



No. 9



No. 10



No. 11



No. 12



No. 13



No. 14

Fig. 2

While the bone changes due to infection are comparatively insignificant as revealed in the radiographs, there was present extensive and severe involvement of the marginal gingivae which resulted in systemic involvement. The presence of calculus can be seen in the radiographs. Clinically there were bleeding, oozing of pus and some swelling of the soft tissues. Halitosis and bad taste were present.

gingivitis was present with a slight amount of visible pus. The application of the standardized periodontia procedure resulted in a complete clearing of the gingival condition. Complete relief from the sciatica followed within ten days thereafter.

SUMMARY

1. The teeth and gums are not the only sources of focal infection.
2. Focal infection is not confined to the periapical area or gums of the teeth.
3. The gum margin, the pyorrhea

pocket, the crest of the alveolar process, the pulp, and even the pericemental membrane and the crown of the tooth, all harbor bacteria in a septic mouth that may be a source of systemic disease when conditions are favorable for bacterial growth.

4. The opportunity for infection in and about the teeth is better than at any other place in the body, yet it is frequently overlooked.

5. Diagnosis of dental infection cannot be made by the radiographs alone, although they undoubtedly are an im-

portant aid. Marginal gingivitis and pulp involvement do not record in the radiographs.

6. Radical operations are not always needed to eradicate oral sepsis, and a plea is made here for conservative treatment and a regard for prevention through the adoption of mouth hygiene.

7. Concerning systemic disease, almost anything may develop as a result of oral sepsis.

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[MECHANICS]

No one will gainsay that the dental profession for many years attracted men to its rank who were primarily of a mechanical mind. For a long period, advancement was made entirely along mechanical lines. A man can think only in terms of his own knowledge, and, with but few exceptions, dental knowledge was a knowledge of mechanics. When a case was constructed, and failed to give service, the failure was ascribed to faulty mechanics.

—ROWE.

Commercialism and Professionalism

By CLINTON H. HENDERSON, D.D.S., San Diego, Cal.

Is the trend of dental practice toward commercialism? The answer may be *yes* or the answer may be *no*. It all depends upon whether or not you allow your desires to be the father of your thoughts.

For the purpose of this article it becomes necessary to divide dentistry into two classes, the commercial dentists and the professional dentists. Most advertising dentists are commercial dentists, and most ethical dentists are professional dentists. *Advertising* and *ethical* are terms much abused and somewhat moot as to their specific meanings. The terms *commercial* and *professional* allow for a more definite differentiation and, in the estimation of the writer, are terms which, for the purpose of this article, set out in clear silhouette the motives behind the personal procedure of the two classes.

It is true that in some instances, although very rarely found, there are advertising offices run upon just as high a plane of right action as offices of men who do not advertise in the proper sense of the word. It is also true that some offices that do not advertise, although rarely found, are conducted in a manner which would put to shame the most radical advertising office in the land. For the most part, however, the offices run by men who do not advertise are conducted upon a high plane of professionalism. The dentists therein conduct themselves and their business as befits American gentlemen and as befits respected citizens and social assets to the communities in which they live.

In other words, there is no mental reaction in the conduct of a professional office which tends to repress the finer spirit of human contact. The motivating spirit of professional conduct permeates the whole being of the dentist and radiates its influence to those with whom he has relation and in turn is carried out throughout his entire clientele, making for a better community in which to live.

The commercial dentist, on the other hand, by the very nature of his advertising procedure, is forced to conduct his practice upon a predication of false representation. He uses advertising copy which sets forth certain price inducements, whether printed as a fee schedule or inferred by innuendo. His advertising matter is intended for the sole purpose of getting people into his establishment and not for the purpose of selling his various articles of merchandise as advertised. Once prospects are inside his place, he relies upon "salesmanship" to land contracts for dental work. The selling methods used by the commercial dentists, whether they advertise or not, are intended entirely to lead the prospects away from the very thing that induced the prospects to enter their offices. This is done in one way or another, the net result of which is the deception of the prospective patient and the sale of the same article at a higher price—always higher! There can be no complaint as to the price (or fee, if that sounds better) that any man receives for his services. The complaint is registered against the motive behind the

obtaining of that fee, whether it be large or small. The very fundamental of the commercial dentists policy is exposed to the thinking man the minute an analysis is made. Any policy which is based upon deceit tends to bring about a mental depression or an inhibition of spirit which in turn prohibits the man who practices it from ever becoming an influence for the building up of a bigger and better citizenship in his community.

The question might be asked: "Well, we are all in business to make money, aren't we?" The answer is yes. So is the bank bandit, the highwayman or the worthless stock salesman in business to make money. The only difference between these and the man who cheats in his profession is that society recognizes the act of the bank bandit, highwayman or worthless stock salesman and metes out to him the punishment that is his just reward, while society has no protection whatsoever against the professional man who deceives his clientele, regardless of how he gets people into his place of business, except through the various state boards of control. In many instances state boards are dilatory in their meting out of justice, usually for one of the three following reasons: (1) improperly worded legal statutes, (2) political influences, or (3) lack of funds to get evidence. There is no doubt that more attention should be paid to the motive behind the act and the net results than to the specific act itself. Some state boards of dental examiners are to be congratulated upon their diligence and initiative in the administration of their judicial duties. They are doing a public as well as a professional service.

There are reasons why dentists are

divided into two classes, principally economic reasons, although in many instances the reason emanates from the heart. Some commercial dentists care for absolutely nothing except the dollars they can accumulate. They think nothing, talk nothing and feel nothing but money. They are in commercial dentistry from choice. Motives are nothing in their lives. Others enter commercial dentistry through ignorance, not being personally familiar with the procedure necessary to make it pay in dollars or with the bad influence such procedures have upon the individual. What a price! Many dentists from small towns wishing to break into the city use the commercial office as an avenue of approach. The newly graduated dentist without funds seeks an income by "going to work for somebody." What an awakening he has in store! Yet a year or so of this is well worth while in some instances. The dentist will learn what the word *exploitation* really means. Still others, through misfortune or bad judgment finding themselves without funds with which to carry on, become discouraged and drift into commercial offices. Others through bad personal habits become "whipped" and seek only to hold on. The commercial office offers them a place to hang their hats. Some dentists are mentally and physically lazy. They know no responsibility and care nothing for their debt to society or their profession. The writer, from experience and observation, believes that he can truthfully say that every capable dentist, sound in mind, morale and body, who has any initiative or ambition and who is working in a commercial office is simply marking time until he can "cut loose for himself." This

condition is bad for the commercial offices. They lose their best men.

What condition exists that makes it desirable on the part of the public to patronize commercial offices? Shall we say ignorance? Possibly. However, that cannot cover the whole field of reasons, because if knowledge on the part of the public prohibited its patronizing commercial dentists, that same knowledge would prohibit it from visiting many professional dentists. If the public only knew how much it could get in some commercial offices and how little it could get in some professional offices (speaking of monetary expenditure for value received), it is the writer's belief that the commercial offices would be the beneficiaries. Of course this does not hold true with the average, but it is cited for isolated cases.

What, then, furnishes fodder for the commercial mill? Simply human nature, the all-pervading phase in each of us to want something for nothing. The man or institution that leads the public or a percentage of the elements of the public to believe that there is an offer made of something for nothing will get those elements for patrons. The right-thinking man or woman by logical reasoning knows it cannot be done. Those who have no reasoning power cannot see this and, as a result, seek the cheapest places and in many instances pay much more. They would resent it very vehemently, should they be accused of being cheap or of wanting something cheap. Nevertheless the fact holds.

In addition to the above-mentioned clientele comes the individual who seeks surcease at the hands of the commercial dentist. He has the power of logical

reasoning, and he knows that the last bill he received from the professional dentist was out of all proportion to the services rendered. He goes to the commercial dentist, knowing full well that he will need to pay more than the advertised schedule to get the kind of service he wants. As a general rule, the commercial dentist is able to satisfy both the patient and himself.

The professional dentists raise still another crop for the commercial dentists to harvest. This crop is made up of people who want the services of the professional men, but who are unable to pay extreme fees. They are often dismissed, not even allowed to leave, with something like: "Well, that is my price and I can't afford to do a bunch of cheap work." That kind of remark hurts the pride of the patient. It does the dentist an actual injustice and renders business for the commercial office. So we have the public divided along with the dentists. Many people have never had any dental work done except in commercial offices and would think of no other place, but the majority would never patronize one of "those cheap advertising places" if they were not forced to do so through the actions of professional dentists or for other economic reasons.

Very few patients are proud of the fact that they have patronized commercial offices, hence the necessity of a continuous advertising campaign. If the public were proud of this patronage, the commercial offices would cease advertising and their clientele would continue to grow. Most persons who go to commercial offices are fearful of being "gypped," and this fact makes them hard to handle. They are suspicious of

every word and action and will discontinue their patronage upon the slightest provocation, real or imaginary. This condition requires the burning up of an unnecessary amount of energy on the part of the dentist and in turn makes him callous toward his patients. Without personal confidence on both sides the relation between dentist and patient is always stilted. The finer spirit of co-operation is absent, which results in many uncalled-for "squawks" and petty bickerings. It is a tough job to manage a commercial office successfully. Corroboration substantiating this contention is the fact that so many commercial offices, companies and "parlors" are continually in the flux, changing hands or management annually or even more often. Comparatively few men retire to live upon the accumulation from commercial offices. From this observation, then, it would seem that the professional dentist, on the average, has a better opportunity to accumulate a competency, or, at least, the law of compensation would seem to treat the professional dentist more kindly.

Let us now take up the proposition of equality in operative ability, comparing that of the commercial dentist with that of the professional dentist. The high pressure under which the commercial dental offices are forced to operate tends to make for careless operative procedure, regardless of what the operator's ability might have been once upon a time. A salaried position also has the psychological effect of lowering the fineness with which each job is performed, as well as with which patients are handled.

This statement should not be understood to mean that all commercial den-

tists are poor operators or careless in their habits. Many of the salaried men are splendid and finish their work to a degree of fineness commendable in any office, but fine work alone will not build up a clientele. There must be present personality, sincerity and gentleness in all things, in conjunction with business acumen, in order to build up a paying practice. Any dentist with these attributes will stay only a short time in the atmosphere of commercial procedure.

Neither should the second preceding paragraph be understood to mean or to infer that all professional dentists are finished operators. The author ventures the assertion that every dentist has often wondered how the other fellow can "get by with such stuff." He should remember that he sees only the other fellow's unsatisfactory work.

Most patients think of dental work as a material article to be carried away like a loaf of bread. This is the fault of the dentist, both commercial and professional. Is there any good reason why a plate made from vulcanite of one color should cost twice as much as one made from vulcanite of another color? If a laboratory does charge seven and a half or ten dollars to make up a composition plate and two dollars and a half for a vulcanite plate, is that a legitimate reason for charging a patient three or four times as much for one as for the other? What is the difference in the value of a silver filling, an alloy filling, a white metal filling and an amalgam filling, if they are all mixed from the same container?

The professional dentist should go through his whole list of operations for the purpose of determining whether or not he is a salesman of material. If he

is, he only makes business for the commercial dentist and makes himself look ridiculous in the eyes of his prospective patients. If the professional dentist wants to make the commercial dentist prosperous, he should be a salesman of material, as he is then getting on the ground of the commercial dentist, a footing upon which the commercial dentist stands supreme.

The fundamentals governing the procedures in the two kinds of offices are far different in their inception. In the one the motto is: "Get the money, get it first, get it honestly if you can." In the other it is: "Give the patient the best service of which you are capable and see that you get what the job is worth." The dentist who has built for himself a good reputation as to honest dealings and capable workmanship justifies a higher fee than the man who is an unknown quantity, and whose services have not yet become recognized by the public as being standard. The former has expended his energy and used his experience to that end, while the latter has yet to prove himself. There is always the necessity for business fundamentals in the conduct of any successful dental office, but there is a vast difference between business fundamentals and exploitation. There is never the necessity for exploitation in the conduct of a successful professional office. A salesman of material is very likely, on account of his method of selling, to be forced into the territory of exploitation, whether he is an advertiser or not.

The overenthusiastic equipment salesman forces many young dentists into commercial dentistry. It becomes necessary for them either to begin to adver-

tise or to resort to other exploitative methods in order to meet the payments on an excessive amount of equipment. The distributor of dental equipment—in most cases unintentionally, we choose to think—delivers to the young dentist much more equipment than would be necessary in a full-practice office. There seems to be in many cases little if any regard for the future welfare of the dentist. His first failure many times whips him mentally and he becomes man-power for the commercial office, not from choice but from necessity. The commercial office gets not only an increase in man-power, but some second-hand equipment made available for it through this failure. The dealers in dental equipment should be able to determine from experience the capacity of the dentist to make good in the location chosen.

The public has a right to expect that the dentist has a considerable knowledge upon all subjects pertaining to health. This question is in such a chaotic condition that a whole lifetime would be too short to work out each phase of every health theory now advanced. The college can give only a few of the rudiments in its course of study, and, as a result, the dentist must rely upon the knowledge of the physician, which has been gained by a broader experience. Individually this becomes discouraging when the physician condemns everything in the mouth that glitters. Collectively, however, the professional dentist is recognized through the dental society, which in turn becomes benefited by the experience of the best men in the medical and surgical world.

The commercial dentist is an outcast in this regard, and it is difficult for him

even in dire necessity to gain the co-operation of the reputable physicians. As a result of this, the commercial dentist lives under the keenest dread of a damage suit. Even if nothing else has an influence in bearing him down, this alone is enough to prohibit his ever becoming a leader in dental technic. The commercial dentist is a follower, and in many instances he is following so far behind that he loses sight of the march of progress, laboring on under the false impression that his way is the latest way and the best way. However, a dentist does not of necessity have to be in commercial practice in order to get that way.

The labor turnover in the commercial office is astounding. Many of these offices go on the theory that when patients begin to ask for a certain operator it is time to get rid of him, as he might become ambitious and open an office of his own, taking away part of the clientele. As a matter of fact, the percentage of patients that can be drawn away from an advertising practice into an ethical practice is very small, and those same patients in most cases would not have patronized the commercial office in the first place, had they expected to have the services of some particular operator. Those patients who do not care who does their work will invariably patronize the commercial office.

One should not be misled by this article into the belief that the author is making any attempt to belittle the operators who are working in commercial offices. Such is not the case. The salaried operator, as a rule, is of good character, charitable, considerate and well disciplined, as much so as the aver-

age dentist, in whatsoever capacity he may be working. There are practically no snobs among the commercial dentists. The very nature of their association has a tendency to soften their relations with others. They have learned that life is a matter of give and take, that it is impossible to take until they have given. There seems to be no satisfactory balance between the giving and the taking as they pertain to labor and capital. Dentistry is no exception to this rule. The operators in the commercial offices deserve no censure. As a general rule, they do as well as they can under the system in which they work. As stated before, few of them are hirelings by choice. Many of them would much prefer to be in professional practice, to be members of dental societies, but lack of nerve or finances prohibits them from making the start.

The point might be raised as to their fitness for a society. In fact, it is being seriously considered in some sections by dental societies whether any dentist who has ever been connected with an advertising dental office should be taken as a member. The negatives and the affirmatives are using to good advantage much energy in an attempt to reach an equitable basis. There is much material for argument on both sides. Any man who lends his support to the furtherance of a nefarious practice, or who associates himself for any reason whatsoever with a class the majority of which is known to have for a basis false premises, must expect to be looked upon as such, irrespective of motive or necessity. The very system under which he works forces him to violate every item of the dental code of ethics, regardless of whether he likes it or not. No matter

how it grieves him at heart, the facts are unrelentingly true.

The dental societies would be justified in refusing admission to him if they bound themselves to the letter of the code. The dental societies, however, fortunately for many, are made up of fine men, charitable men, men who wish to injure no one. Neither do these men wish to besmirch the society by admitting to membership men of questionable trend. Should the dental society decide to exclude from membership forever every dentist who has in the past been connected with an advertising dental office, there would be nothing to do about it. Such a policy would probably work as a detriment to the society, as it would exclude from membership some men who have seen the error of their ways and have concluded to disassociate themselves entirely for all time from every phase of dental practice of questionable aspect. These men are usually keen, sharp observers with a sufficient nerve to back up their convictions. They are men who would do credit to any society, dental or otherwise—the kind of material which forms the very foundation of any organization founded for good.

There seems now to be a custom in vogue requiring an ex-advertiser to live voluntarily by the ethical code for one year as a prerequisite to membership. This alone should not be considered sufficient evidence of his fitness. At the expiration of one year, if the dentist has voluntarily practiced by the dental code of ethics and still wishes to become a member of the society, the society should accept his application. Upon the presentation of his application it should be voted upon by the society at the first

meeting after the application has been received. If a majority of the membership casts dissenting votes, the application should be returned to the applicant with any money he has paid. If there are no dissenting votes, the applicant should be accepted to membership.

In the event that there are a few dissenting votes, even one, then the president should call a meeting of the board of directors, sitting as a board of arbiters, together with those members who were not satisfied with the applicant. The applicant should be called before the meeting and under formal oath should be given a fair and unbiased trial. The members who object to the applicant should openly state their objections, giving the applicant opportunity to defend himself. The board of arbiters should determine at this meeting the motive which prompted the applicant's entrance into the advertising business. They should trace by questions applied directly to the applicant every inch of his career while connected with the advertising office, going even farther back if necessary into his previous life, so that by the time the meeting is over every one present will be completely satisfied that the applicant should or should not be admitted to membership. The decision of this board should be final and definite for all time. The more openly and honestly these procedures are conducted, the stronger will the membership become united. The more "hush-hush" stuff is practiced, the weaker will become the fabric.

Be charitable, be just, be honorable, be direct, but, above all things, be charitable with the dentist who has fallen. It is far more honorable to retrieve a mistaken colleague than to con-

demn him. In justice to his motives, go to him direct. Every man who practices dentistry for a lifetime deserves a charitable thought. The deeper in the mire he has allowed himself to sink, the more charity he needs.

In order to build up a strong profession that will maintain its respect in the public estimation, it becomes necessary for every single unit of that profession to be clean at heart and strong in his

determination so to live that no suspicion of graft shall ever enter the public mind. Let every man so conduct his business that his colleagues will respect him, so that those who do choose to stoop to questionable practice will be isolated. The line separating the professional from the commercial should be made distinct. This can be done only in the hearts of the men concerned.

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Some Problems and Complications In Exodontia*

By M. J. BOYER, B.S., D.D.S., West New York, N. J.

In the past fifty years the practice of dentistry has risen to great heights. Not only has the status of the dentist himself become greater, but the complications of a many-sided profession have risen to confound him. It is indeed a far cry from the humble barber who included among his many duties the extraction of teeth to the modern dental surgeon and his many specialties.

Exodontia, the root of modern dentistry, has become, like the science of which it was the original form, very complicated. It is no longer a simple matter to pull an aching tooth. The extraction of a tooth is as much of a surgical operation as any other surgical interference with the human body.

COMPLICATIONS IN LOCAL ANESTHESIA

Let us consider the complications in local anesthesia in the order of their sequence:

- (1) Induction of anesthesia.
- (2) Operative procedure.
- (3) Post-operative treatment.

I will confine myself to local anesthesia, as the complications of general anesthesia are too vast a subject to deal with in this paper and are not intended for the general practitioner.

Various technics are advocated for the induction of anesthesia, any of which, if properly mastered, will produce good results. However, in spite of all precautionary measures, there are

certain complications which may arise. The foremost of these are:

(1) *Trismus*. Trismus is caused by injecting into the muscle tissue and is generally common to beginners, due to faulty technic and lack of understanding of anatomical landmarks. If no inflammation sets in, it will subside after several days. The treatment consists of massage, a hot mouthwash (preferably magnesium sulphate), and wedging the mouth gently with the fingers or a wooden prop so as to open more and more daily, making it a gradual process in order to avoid sudden irritation to the muscle.

(2) *Hematoma*. Hematoma is generally caused by the tuberosity or zygomatic injection used to anesthetize the maxillary molars. It generally occurs when the needle is inserted and carried into the superficial soft tissues, or when the needle does not follow the bony landmark. Hematoma sometimes occurs with the most experienced operators. It is a sudden infusion of blood into the tissues. If proper asepsis is followed, there is nothing to fear except the slight discomfort to the patient. It is as a rule not accompanied by pain unless sepsis sets in. In from five to ten days the blood will be absorbed and the very familiar black and blue marks of ecchymosis will appear on the patient's face. The patient should be assured that nothing serious has happened, and that the swelling will disappear in a week or ten days, as will also the discoloration. Its treatment consists of the application

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of an ice-bag for ten to fifteen minutes every hour and a mouthwash of hot epsom salts or hot saline solution.

(3) *More or less permanent anesthesia.* Operators who use alcohol for the purpose of sterilization should be very careful to wash off every drop from the needle and syringe. This is very important, as the injection of a single drop of alcohol around a nerve trunk will cause anesthesia for from three to six months. Fortunately, however, alcohol evaporates quite readily. Injury to the nerve proper can be avoided by moving the needle to and fro very gently so as to keep within the boundaries of the areolar tissue. Fortunately the blood vessels are covered with an elastic tissue which generally deflects any foreign body from entering it if too great a force is not used.

(4) *Infection.* In order to avoid infection, a perfect chain of asepsis must be carried out from the beginning to the end, as a single break in any of the links may cause disastrous results. The needle, the syringe and the solution are the three vital links in the chain. The needle and the syringe should be boiled from five to ten minutes and then washed in distilled water to remove the deposits obtained while in the sterilizer. They then should be kept folded in a sterile towel or gauze up to the time of use. The solution must be fresh and isotonic. It is preferable to use the ampoule, as it is not contaminated by hands and is always ready for use. This technic may sound elaborate and impracticable for the average busy practitioner, but, if adhered to, it actually simplifies itself with a little practice.

(5) *Breaking of a needle.* The breaking of a needle is rather a rare occur-

rence with an experienced operator. In the beginning of the era of conductive anesthesia this was a frequent accident. When it does occur, it is usually the result of one of the following causes: (a) sudden movement of the patient; (b) improper gauge of needle; (c) badly tempered needle; (d) continuous use of the same needle until deterioration has taken place; (e) faulty technic.

(6) *Injection into an area of inflammation.* Injection into an area of inflammation must always be avoided, as it forces the septic material into the deeper strata of tissue, thus spreading the infection. This lowers the resistance of the part, causing innumerable post-operative complications such as pain, swelling and osteomyelitis. Most of the cases of osteomyelitis are caused by injection into an inflamed area. The so-called periosteal injection, which deprives the bone of its nourishment by traumatizing the periosteum, is one of the most usual causes.

All these complications could be minimized to a great extent if the operator would familiarize himself with the proper technic, asepsis and anatomical considerations.

COMPLICATIONS DURING AND AFTER OPERATIVE PROCEDURE

The complications during and following operative procedure are as follows:

(1) *Fracture of root.* The breaking of a root is the simplest complication for a dental practitioner. Again I must emphasize the importance of proper technic. No force should be attempted in elevating or removing a broken apex or root. It is far more simple and productive of less trauma to open up a flap and remove the root without any

force, especially in the region of the maxillary sinus, as it can easily be pushed into the antrum by using force.

(2) *Forcing root into antrum.* Forcing a root into the antrum also can be avoided by the proper technic of a surgical removal. In many cases, especially where the antrum is diseased, the floor is thinned out and the root can be readily pushed up into the maxillary sinus. If such an accident occurs, unless the operator is reasonably sure that he can secure results, he should not attempt the removal of the root.

The removal of a root from the antrum may be accomplished by first determining the exact location of the root in the maxillary sinus with x-rays, enlarging the opening into the sinus and irrigating with a saline solution in a fountain syringe, without any pressure. In many cases the root will be washed out. If this is not successful, an antrum curet must be used or the maxillary sinus must be packed tight with gauze and the root pulled out with the gauze. If the antrum is not diseased, it can be closed immediately by suturing or a small opening can be left and it can be irrigated daily.

(3) *Injury to nerves in region of operation.* Great care must be exercised in removing roots of the mandibular bicuspid because of the proximity of the mental foramen. There are numerous cases in which the mental nerve has been injured, causing anesthesia for months. Also, in the operation for the removal of the mandibular third molar the practitioner must be careful not to injure the lingual nerve, which is adjacent to it. Injury to the inferior dental nerve may be caused in an operation

for the removal of a cyst or in a fracture of the mandible.

(4) *Fracture of jaw.* The importance of a thorough x-ray and clinical examination before any extraction, especially when there is a history of pain and swelling, cannot be too strongly emphasized. Many cases occur in which a blow may have caused a fracture of which the patient is unaware, and any surgical interference will cause serious trouble.

Case 1

Mrs. C. O. complained of pain and swelling in the left mandible for three days, particularly pain in the left mandibular second molar under pressure, and numbness and a sensation of prickling in the lower lip.

Mode of onset. Upon questioning, the patient gave a history of a fall about two weeks previously. No pain nor swelling was noticed at that time.

Clinical examination. External: Skin normal, with a slight hardness and thickening of the left mandible; submaxillary gland not involved; slight pain on pressure. Internal: Malocclusion, separation of about one-quarter of an inch between maxillary and mandibular teeth; left mandibular second molar loose and very painful to the touch; all anterior teeth to median line painful under pressure; mucous fold normal, floor of mouth normal; slight crepitation in region of left mandibular molar upon moving the jaw.

X-ray examination. Revealed fracture of right mandible and the mesial root of the second molar (Fig. 1).

Case 2

Mrs. S. complained of pain and swelling in the right mandible. She insisted

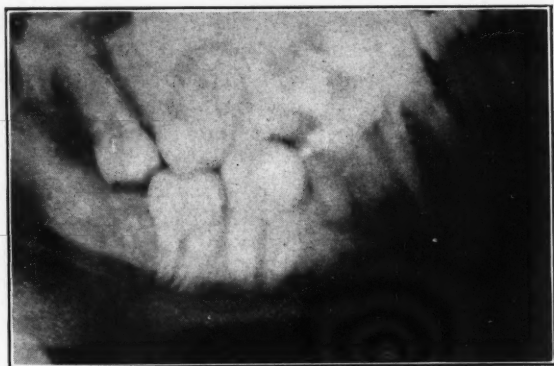


Fig. 1

Fracture of right mandible and mesial root of second molar.

on the removal of the tooth. Upon x-ray examination it was seen that there was a fracture of the right mandible (Fig. 2).

(5) *Post-operative pain.* Post-operative pain cannot be entirely eliminated, but I believe that it can be minimized to a great extent if the operator will plan his operation in a routine way. It is sometimes difficult to understand why one patient will suffer extreme pain following the simplest operation, while an-

other of the same temperament will go through extensive surgical interference without pain.

In order to minimize post-operative pain, we must adhere to the following principles: (a) thorough asepsis; (b) injection of an isotonic solution; (c) injection of the solution slowly; (d) avoidance of extensive trauma; (e) removal of all sharp edges and spicules of bone.

In the treatment of post-operative



Fig. 2

Fracture of right mandible.

pain the packing of the wound with various anesthetic powders, 5% iodoform gauze, etc., will minimize pain; the administration of sedatives also is generally practiced.

It is my belief that there is entirely too much packing done. A blood clot should never be disturbed unless it breaks down. Packing irritates the tissues, retards healing and interferes with nature's method of protecting injured parts; in other words, the blood clot is nature's packing and should be left alone. On the other hand, if for any reason the blood clot should break down, thoroughly irrigate the wound, remove the broken-down clot and all sloughing, and pack the mouth of the wound with 5% iodoform gauze.

The breaking down of a blood clot is caused chiefly by insufficient or improper curetting whereby some diseased tissue is left in the socket, opening up avenues of infection, breaking down the blood clot and causing other more severe post-operative complications. Unless the curetting of a wound brings it down to a healthy stratum, it is better to leave things to nature. There is more danger in curetting improperly than in not doing it at all.

So much has been said about the dry socket that I think it would not be amiss to discuss it at this point. The so-called dry socket generally occurs in patients with lowered resistance, patients suffering from anemia, or when the bony structure surrounding the tooth is undernourished. This condition causes more intense pain than any other that we know. The treatment consists of packing the mouth of the socket lightly with 5% iodoform gauze saturated with a mixture of equal parts of guaiacol

and glycerin. This will give immediate relief, and, if necessary, a sedative can be administered. In the treatment of all post-operative cases it is important to watch the diet carefully. The diet should be liquid, consisting of fresh fruit juices, broths and other nourishing liquids.

(6) *Hemorrhage.* Hemorrhage following extraction is a rather rare occurrence, but it may be very serious and even fatal. It is important in the treatment of hemorrhage after extraction to irrigate the wound with a normal saline solution or any other antiseptic solution in order to dislodge all clots. It is necessary also to isolate the wound by packing around it with gauze and thoroughly drying the socket in order to determine the exact location of the bleeding. It is important to determine whether the bleeding is from the bone or from the soft tissue. When the bleeding is from the bone, it is often caused by the bursting of a venule in the bone proper. This is easily checked by burnishing the bone with the smooth surface of a curet or by packing the socket with a paste made of tannic acid and glycerin on iodoform gauze and having the patient use pressure by biting on the gauze.

When the hemorrhage is in the soft tissue, it may be immediately arrested by suturing both sides of the gum margin, using an electric cauter, or by packing.

In cases where the patient gives a history of bleeding it is important to determine the clotting time before any surgical interference is begun. If the clotting time is longer than five minutes, it must be reduced before operating. I have obtained good results by pre-

scribing calcium lactate in fifteen-grain doses twenty-four hours previous to the operation.

(7) *Swelling*. The treatment of a swelling depends on its etiology. There are two kinds of swellings, acute and chronic. When the patient presents with a swelling, a thorough examination is essential as to location, condition of skin, glandular involvement, temperature and pulse, etc. A necessary factor in swelling is to rule out three important things: (a) tuberculosis, (b) luetic infection, (c) malignancy.

The proper procedure in examining a swelling is to obtain a thorough history of the patient: how and when the swelling started, whether it was accompanied by pain, the treatment previous to your examination, the rapidity of onset, external examination as to glandular involvement, condition of the skin, whether or not fluctuation is present externally or internally, whether the swelling is adherent to the bone proper or to the integument of the skin, etc. It is important to observe the secretion of the salivary glands in any swelling, especially where its etiology is unknown. This is necessary in order to determine that the salivary glands are not obstructed, and that mumps or parotitis is not the cause.

(a) *Acute swelling*. In the treatment of pre-operative swelling the operator should not attempt to incise for drainage unless he is thoroughly sure that fluctuation is present and drainage can be established. It is best to observe the patient for at least twenty-four to forty-eight hours in order to study the rapidity and nature of the swelling, the resistance of the patient, etc. The abortive treatment of swelling is as follows: (1)

application of ice-bags externally ten to fifteen minutes every hour; (2) a teaspoonful of epsom salts in a glass of hot water to be held in the mouth by the patient as often as possible; (3) the administration of a saline cathartic; (4) liquid diet. The treatment for post-operative swelling is the same.

Once fluctuation is determined, it is an easy matter to incise and obtain drainage. So-called hard, bony swellings, where the mass adheres to the bone and the patient runs a high temperature and no fluctuation is present, are generally a forerunner of osteomyelitis. The patient should be watched, frequent x-rays taken, and drainage established as soon as indicated, but no surgical interference should be attempted until the sequestrum is formed and can be removed.

In all cases of acute infection, wherever possible, a blood count and a urinalysis are indicated.

(b) *Chronic swelling*. Chronic swelling is generally not accompanied by pain or temperature; it is usually a low-grade infection. It may be a cystic formation. Its treatment depends on proper diagnosis.

Many so-called chronic swellings may be extensive cysts of the maxilla or mandible. They may be of the follicular or radicular type. This can be readily determined by x-ray and clinical examination. In extensive cystic formations the so-called eggshell crepitation can be felt. This is due to the absorption or thinning out of the external plate of bone and is caused by the pressure of the cystic fluid. Incision into the cyst proper will cause infection of this fluid. It has been determined that the cystic fluid is generally sterile unless con-

taminated by the fluids of the mouth, therefore it can readily be seen that complications may be caused by an incision into the cyst and the consequent disturbance of the fluid.

There are two methods for the removal of the radicular cyst. One is by making a flap, exposing the cyst and removing it en masse, if possible. This is generally practiced in the mandible when the cyst is not so extensive as to involve other vital structures. The other or so-called Partsch No. 2 method consists of making a flap, exposing the cyst, cutting it in halves, emptying the contents, shelling out the cyst cavity, leaving the inner cyst membrane intact on the bone and packing the cavity daily until the epithelial lining has eventually fused with the mucous membrane of the oral cavity. This method is generally used in the maxilla, where the cyst may be so large that there is danger of encroaching upon the floor of the nose or the maxillary sinus.

Case 3

Mrs. R., forty-six years of age, had as her chief complaint a swelling in the right side of her face.

Mode of onset. Periodic swelling for the last few years followed by a chronic swelling for the past six months, but no pain.

External examination. Skin normal, slight elevation of the integument on the right side of the face in the region of the right ala of the nose as compared with the left side. Swelling not in the soft tissue, but seemed to be confined to the mucous membrane and bone of the right maxilla.

Internal examination. A large, semi-firm swelling of about four centimeters

in diameter palpable in the mucous fold of the right maxilla. It extended from the right maxillary cuspid to the right maxillary first molar. The mucous membrane covering it was normal and



Fig. 3
Cyst of the maxilla.

the mucous fold was obliterated. Crepitation was present. Not painful to touch. The molar and bicuspid on the right side were missing. The alveolar region was normal; the central and lateral incisors and cuspid were loose, but not painful to touch. The x-ray revealed a large cystic mass in the right maxilla pressing against the floor of the nose and the right maxillary sinus. Operation for the removal of this cyst was by a Partsch No. 2 operation, the technic for which I have described above. (Fig. 3).

Case 4

Mr. G. M.'s chief complaint was swelling and pain on the right side of the jaw for the past two weeks.

Mode of onset. Six years previously the patient experienced a similar swelling, but the condition subsided under home treatment. Since then the patient had been under care of medical men, who at various times opened up externally and made the diagnosis of a



Fig. 4

An impacted second molar with almost a pathologic fracture of the mandible.

tubercular condition, as the wound did not heal.

External examination. Skin normal, a small fistulous opening externally through the cheek, the submaxillary

gland slightly involved, the lower border of the mandible palpable, the swelling hard, no fluctuation, skin movable. In other words, the swelling was confined to the bone proper.



Fig. 5

A large cyst in the mandible.

Internal examination. The mucous fold was slightly inflamed, the floor of the mouth was normal, roots were present in the region of the right mandibular molar.

X-ray examination. Revealed an impacted mandibular second molar which was impinging against the erupted third molar, and an almost complete pathological fracture (Fig. 4).

Case 5

Mr. Z., aged twenty-five, complained of a swelling on the left mandible.

Mode of onset. Patient gave a history of swelling about one year ago, unaccompanied by pain; the molar teeth in that region had been extracted three years previously.

External examination. Skin normal, no glandular involvement, not painful to pressure.

Internal examination. External plate of the mandible was greatly distended, the mucous membrane covering it was normal; upon palpation crepitation was

felt, indicating a thinning out of the plate of bone; the floor of the mouth was normal.

X-ray examination. Revealed a large cyst in the region of the molars, the size being about three centimeters in diameter (Fig. 5).

SUMMARY

In reviewing the major points of the foregoing article I would stress the importance of technic in local anesthesia and of x-ray and clinical examinations in the treatment of pain, swelling, hemorrhage and surgical complications. In conclusion, let me say that whether it is a major or a minor surgical interference, it is of the utmost importance to plan the operative procedure in such a manner as to be able to treat all complications if necessity should arise. In other words, in the constant aim toward perfection of technic and diagnosis lies the success of an operation.

437 16th Street



Why Teeth Decay

A lecture broadcast under the auspices of New York University by W. H. O. McGehee, D.D.S., M.D., Secretary and Professor of Operative Technology, College of Dentistry.

Decay of the teeth, or dental caries, is the most prevalent of all the diseases to which mankind is subject. It may truly be said to be a disease of civilization.

Examinations of many skulls in museums show that this disease is certainly as old as semi-civilization. A skull of a mummy in the British Museum dating back to 2800 B. C. exhibits well marked decay of the teeth. The condition appears in the teeth of all peoples where the dietary has included cooked starchy foods. Cooking of these starches bursts the envelope or outer covering of the grain containing them and brings the starchy fermentable material in direct contact with the teeth of the individual using them, thus subjecting these teeth to the action of an important factor concerned in the production of tooth decay.

Many thousands of years ago the ancestors of the human race lived a wild, rough life. They were accustomed to vigorous exercise in the open, were exposed to the sun and the elements, and lived on rough, coarse food which required vigorous mastication, and which stimulated regular bowel movements. Decay of the teeth and constipation were practically unknown.

As civilization advanced through the ages, this mode of existence was slowly and gradually changed until today we are leading a more or less sedentary life with insufficient exercise and eating an excess of highly seasoned, soft foods

requiring little mastication, and from which the most important health-giving, cell-building elements have frequently been removed by the manufacturers or through the process of cooking.

As a result there has been a gradual deterioration in the physical development and resistive powers of all of the organs of the body, including the teeth, and an increase in the diseases to which mankind is subject, including the one under discussion. It is impossible to cover fully in the time allotted all of the details of this question. However, I might say that the causes of decay of the teeth as found in man today may be described under two general headings: (1) local or exciting causes, and (2) general or predisposing causes. We will consider first the local causes.

Very briefly, we may say that cavities occur in teeth as a result of decay beginning on their surfaces. Decay is largely the result of the fermentation of food deposited and remaining on these surfaces. Fermentation is a decomposition of carbohydrates (starches, sugars, etc.). Food debris accumulates because of neglect in the application of the ordinary rules of cleanliness to the care of the teeth. Fermentation of food debris is due to the constant presence of germs in the mouth. The action of certain of these germs on the fermentable material produces lactic acid. Lactic acid dis-

solves out the lime salts, of which the major part of the tooth is composed. Other germs, constantly present, liquefy the organic material which constitutes the remainder of the tooth. The result is a cavity of decay.

This is known as the fermentive or chemico-parasitic or germ theory. Statistics show that at the present time the incidence of dental caries is from 95% to 98%. The estimates of forty or fifty years ago were no greater, if as great. It is therefore evident that, notwithstanding the great care which has been expended on tooth surfaces by dentist and patient, dental caries has not been appreciably checked. The principles on which treatment is based must be in some measure at fault.

Not only has the daily clinical and personal application of the beliefs of the fermentive theory for many years shown its futility, but recent tests of the theory on living animals have given negative results.

When Miller, the father of this theory, was confronted with the fact that animals, such as swine, which live almost wholly on fermenting foods, had little or no decay of the teeth, he attributed this to the structure of the teeth of these animals. Other investigators have estimated the number of bacteria in the saliva of swine to be six times greater than that of individuals with extensive caries. Hence, as between the bacteria and tooth structure in their respective relations to caries, the tooth structure is of primary importance.

Since both clinical and experimental experience indicates that the cause of caries does not lie wholly in specific environmental factors, a further exam-

ination of tooth substances and of the tooth pulp in its relation to this has been undertaken.

We see, then, that practice based on the fermentive theory has not effected an appreciable diminution in the progress of decay of the teeth. Scientific investigations now in progress give greater support to the idea that the disease to quite a degree is due to vital, biologic or constitutional causes which are largely concerned with the question of diet. Consequently we may say that the second cause is concerned largely with dietary considerations and their influence on tooth and bone formation. Let us discuss these dietary considerations briefly.

The teeth are composed largely of calcium or lime, phosphorus and magnesium in chemical combination with organic material. Recent experiments tend to show that there is a constant interchange or passage of fluids and other substances throughout the tooth substance, both from the mouth into the tooth and from the tooth pulp within, through the tooth, to the fluids present in the mouth.

This may account for the now known fact that there is a constant change in the structure of the teeth throughout life, that is to say, a building-up and a breaking-down process, resulting in a variation in the hardness or softness of the teeth at different periods of life.

This is due largely to a deprivation of their lime content from the teeth during illness, pregnancy and any conditions lowering the vitality of the individual and a building in of additional lime salts when the individual returns to the normal, provided there are in-

cluded in the diet the necessary substances for the proper building of good tooth structure.

It has been recognized for many years that tooth and bone formation in the unborn infant is influenced largely by the diet of the expectant mother, as well as by the character of the diet of the child after birth. We now know that diet largely regulates the character, hardness and resistance of the teeth to disease processes throughout the life of the individual. Consequently teeth of good structure are less subject to the action of the first cause we have mentioned.

The ideal diet for this purpose is one in which a sufficient amount of dairy products (milk, butter, etc.), leafy vegetables (lettuce, spinach, Brussels sprouts, celery tops, beet tops, etc.), and also fruits, particularly oranges, is included. This diet should be adopted with the idea of largely reducing the amount of white bread (from which most of the sustenance and mineral contents have been removed), also muscle cuts of meat (liver and the internal organs of the animal are better), starchy foods (such as potatoes), and sugar. These latter are consumed in too large quantities by the average American family. There should be included also plenty of

water and substances of a coarse, fibrous nature, such as celery, together with toast and bread-crust of whole wheat and brown bread, which require thorough mastication and stimulate regular movement of the intestines.

Summing up, then, it is perceived that regular and daily cleansing of the teeth, gums and soft tissues by the brush and floss is important, but that this should be supplemented by general hygienic measures, including exercise, fresh air, sunshine, baths and attention to the diet, in order that the resistive powers of the body, including the teeth and supporting structures, may be maintained in the highest state of efficiency.

It would seem, then, that the well-worn slogan formerly taught to millions of school children throughout the land, and which proved to be a fallacy, might be modified to meet our present needs, and that we could teach them that clean, healthy, well nourished and properly functioning teeth do not decay.

In conclusion, I wish to say that your dentist should be prepared to advise you at all times in regard to modern methods of prevention of dental caries. The time will come when many more of the diseases to which mankind is subject, including decay of the teeth, will be largely eliminated.



The Abscessed Tooth

By F. ALBERT DONLAN, M.D., Altoona, Pa.

It is a matter not only of experience but of record that the dentist has been too frequently considered from the viewpoint of the spectacular rather than the end-result. For this rôle he has on not a few occasions served a useful purpose. To be more explicit, let it be said that too often the saddle of responsibility is placed upon him as a technician's obligation, to be discharged in the form of a finished "job." The truth of the matter is that many affections commanding his attention have already passed beyond a stage where either a dentist or a doctor in cooperation can offer much save fruitless efforts from the standpoint of clinical end-results.

The time to accomplish much or to make a study is as early in the progress of an affection as possible. Delays call for retrospective thought, which may or may not be the result of orderly deductions. In such instances efforts by even the most efficient in either profession may be of no avail in eradicating the damage, but may only lessen the load, which might be in some respects increased by reason of previous unwise counsel. An early correlation of all things clinical, whether they be regarded as "dental" or "medical", is absolutely necessary for success in the progress of preventive practice. Rather than numerous subdivisions, prompted by traditional convictions and often requiring assemblage with difficulty, there should be forthcoming, primarily, a comprehensive study free from all avoidable delays and representative of uniformity.

Those of us who have labored through the years with that end in view have learned that such a practice combats failures otherwise difficult to avoid.

The following statement, constructed in a manner somewhat ambiguous for the express purpose of emphasizing the very fact I wish to impress, and which I have had impressed upon me on many occasions, will, for the sake of those who seem to have misunderstood its meaning, appear in a different light when explained, namely: *draining a tooth and prolonging life is the height of efficiency; it is skill personified.* Now comes the question, "How can you drain a tooth that has an abscessed root?" Then another, "Don't you know that we are trying to get far away from that teaching of draining an abscessed tooth and leaving a devitalized structure?" And also, "Do you approve of the present-day teachings and the efforts to save abscessed teeth, with affected roots as a result? How can you drain a tooth under such circumstances without getting into trouble?" These and a few other questions have been presented to me since the appearance of the discussion on *What, Then, Is Dentistry?** I shall endeavor to explain the significance of the statement, which has brought forth not a few comments in the form of questions.

Varying conditions make any rule hard. A method of choice too often becomes a matter of individual judgment

* Published in *The Dental Digest*, October, 1928.

rather than clinical wisdom. Past accomplishments independent of any fallacy in the procedure, by virtue of their alleged successes, frequently determine continued bad practices. The operator who in a bid for popular favor becomes subservient to the whims, fancies, timidities and caprices of an ever changing public contributes each year much toward increasing but avoidable failures. When the element of the clinical enigma becomes associated with all these misgivings, one immediately grasps the seriousness of the situation and the difficulty of its removal. The highly efficient man in the profession is a subject for congratulation because of his success in overcoming such influences, often under adverse circumstances.

Spontaneous disorganization of the tissues in the pulp cavity in the absence of well defined local or external pathology and a negative x-ray is announced by subjective complaints. What is the usual procedure? Tooth drainage and sterilization in the process of preparation for restoration. What is the usual aim? To save the tooth, if even for a few years. What is the result? A devitalized tooth, a foreign body under certain existing systemic influences. The process of preparation is a matter of drainage of the tooth. The efficiency of this process remains for time to tell, and the fallacy is exemplified in the apical abscess. Every time such a method is chosen, in the absence of a thorough clinical study, the element of chance is accepted.

Constitutional susceptibility has always been a problem and upon innumerable occasions it is never considered. Irritation in the preparation of a tooth has provoked peridental inflammation

and, as a result of haste, even though the acute manifestations may subside, there comes about a subacute inflammation, probably not well announced in the beginning but pronounced occasionally in its sequel—the abscess. This is primarily a problem of drainage in the broadest meaning of the term.

Then there is the example of the disorganized pulp progressing to putrefaction, with no obvious manifestation of the process in the beginning other than perhaps a restricted one. The tooth is prepared for restoration, wide drainage and sterilization. Again that general, extraordinary, abide-by-time procedure determines the outcome.

It is hard to conceive of any intelligent effort to conserve, with a diseased root or pathology in the alveolar space. Any morbid action already existing is likely to be aggravated by the process in the same physiological manner as is a constitutional disease aggravated by physical violence, whether from exposure or trauma.

From the supposed sound and healthy roots, the result of sterilization or limitation of disease by drainage and resolution, whether the etiology be remote, as within the pulp chamber, or immediate, as from some unknown cause in the apical space, there may come as a sequel the apical abscess.

An abscess at the apex or within the alveolar space, that is, outside the tooth structure, is an alveolar abscess, irrespective of its etiology. It may be attached to or closely embrace the tooth structure. It involves primarily the tissues of the apical space and may invade the bone. The pus of an alveolar abscess may find its way through the apical foramen and thence through the root canal, espe-

cially in younger subjects and in those debilitated from disease. It may go through the alveolar wall or peridental membrane and invade the surrounding tissues. Drainage via a tooth, where there is pathology in the alveolar space which is strictly without the tooth structure, is the height of folly. This is not a matter of tooth drainage but a matter of efficient drainage of the apical space, namely, tooth extraction.

As with diseases in general, there arises always the question of the individual's resistance. True, many individuals have a wonderful response, even under distinctly unfavorable conditions. The diffusibility of toxins relative to individual susceptibility, the difference in virulence in different strains of organisms, the disposition consequent to impaired states of health, the inefficiency of drainage in general, unless it is thoroughly adequate and governed by well-known physiological and pathological principles, all make it imperative that the dentist know when, where and how to drain. *Draining a tooth and prolonging life is the height of efficiency; it is skill personified.* However, it is not draining the alveolar space. Removing the tooth is the only sound principle for such a procedure, whether the abscess be minute or very obvious. This procedure, extraction, is not spectacular. It offers no "come-back"; it is a preventive practice.

Those who are interested in the trend of modern dentistry, and who encourage the development of a closer correlation of things technical with those clinical, will find much to discuss within the realm of stomatology without going elsewhere. Many ideas expressed ten or fifteen years ago are even now too new

for public acclaim. The students of modern tendencies, whether technical, preventive or clinical, will find that much that is accepted now as a legitimate part of dentistry had its origin in the beginning of the present century. The modernistic idea, however, has not gained the foothold in general that it has in certain isolated groups.

Those who have actually observed failures approaching the tragic will admit, if they are fair, that they were largely due to the absolute lack of co-operation or exchange of clinical views regarding experiences. If such be the case, why should either group pull down the blinds, whether decorative or not, and exclude radiating impressions which might brighten a darkened convolution of the cerebrum? So far the clinical aspect has proved to be an enigma for too many, even for those said to be directly concerned. Much of this fault is due to a lack of research, of contact with things which would yield modern ideas. In consequence there are innumerable exhibitions every day of stupidity and omissions, emphasizing the general lack of clinical wisdom not restricted to the dental profession.

As an up-to-the-minute study there should be assembled in every county a comprehensive group of competent representatives especially chosen to present material which would establish this contact.

There is a striking interest, an intelligence, an appreciation for things clinical, that is lagging or defaulting because of a lack of encouragement. We have not yet attained the fellowship that will arise as a result of a more widespread uniformity of spirit. With this idea in mind, and until there comes

a better solution, there should be as part of our daily life a growing fondness for the modernistic trend or the ability to correlate all things clinical. This practice cannot be accentuated too strongly. It will serve our needs best

and fill the gap wherein lurk many otherwise countless failures, some of which each year, when well narrated, savor of the tragic.

393 Melville Road



[X-RAY DIAGNOSIS]

The roentgen ray never lies. When it is thus accused, the operator is reading into it something that "isn't" or missing something that "is." Of course, from the film alone, an operator can say that in such a location the film shows up darker than normal, etc., but that is not interpretation. Interpretation is the determination of the histologic, anatomic, or pathologic condition present in any given area and this requires more than a roentgen-ray film.

—THOMAS.

Checking the Fit of Inlays Before Cementation

By L. G. JORDAN, D.D.S., New York, N. Y.

Instructor of Prosthesis, New York University, College of Dentistry

In the March 1928 issue of *The American Dental Surgeon* Dr. Howard Raper mentioned having seen a clinic in which I demonstrated the application of the bite-wing examination in

The initial application of this idea was with a view to checking the accuracy of the indirect inlay technic which I was then using. The information which became available as the re-

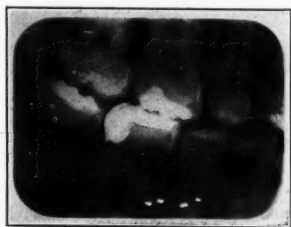


Fig. 1

Bite-wing picture of an inlay restoration in the mandibular first molar, exactly as it came from the amalgam die (indirect inlay technic). The purpose of the picture was to check the gingival margin adaptation and proximal contour.

Note the deep cement cavity lining necessary because of extensive decay. Periodic bite-wing examinations would have led to the discovery of decay before it had reached such a stage.

checking the gingival adaptation or fit of inlays before cementing them into the cavity (Fig. 1).

sult of this procedure has been of inestimable value, and it has been the routine procedure in my practice to



Fig. 2

Patient 30 years of age. The importance of a periodic bite-wing examination is evident in this case without further explanation.

Note the healthy interproximal areas resulting possibly from the reproduction of natural contours, contact points and interproximal spaces when the restorations were made.

check all inlays in this manner, not only before cementing but at regular intervals thereafter (Fig. 2).

Needless to say, the information derived from this visual check has had an important bearing upon the selection of the cavity preparations apparently most suitable for inlay work as well as upon the choice of gold alloys best adapted for this type of restoration. Certain types of gold alloy seem to hold precedence over others in maintaining gingival contact after it has been established, especially where the long bevel is used in cavity preparation.

far more faulty restorations and undiscovered cavities being dismissed from our offices than we are apt to believe.

Having made use of this means of examination from the time it was first suggested by Dr. Raper, I can now speak from experience, and the evidence accumulating in my x-ray files prompts me to make the very broad statement that no mouth examination is complete without it. In the interest of better dentistry I make this plea: "Please make a bite-wing examination of every single mouth that comes into your office, at least for one month."

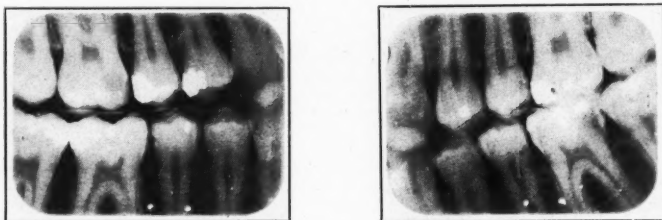


Fig. 3

Patient about 15 years of age, whose father was a millionaire and willing to "go the limit," as we say, in helping his son to preserve his teeth. The patient made quarterly visits to the family dentist, and two months before these pictures were taken he was told that his teeth were in very good condition.

The pulps of the right mandibular first molar and the left maxillary first molar were exposed, and decay had reached the dentin in the left mandibular and maxillary second bicuspid, as seen in the pictures. The decay in the left maxillary first molar was evident to the eye, but, as is usually the case, the decay in the other teeth had reached the dentin through fine pin-point faults in the enamel on the proximal surfaces and was apparent only after making the bite-wing examination, although it might possibly have been found if the painful process of wide tooth separation had been resorted to.

It seems impossible to overestimate the value of the bite-wing examination not only for checking inlays before cementation as well as the periodic checking of all types of restorations, but, most important of all, for the discovery and location of cavities in their early stages before decay has progressed to the point where the health of the pulp is endangered (Fig. 3). There are

Wings may be attached to the regular dental films if the operator does not care to use the more convenient ready-made bite-wing film. It is very encouraging to find that some dental colleges are preparing their undergraduates for making a thorough application of the bite-wing examination in their future practices.

209 East 23rd Street

The Responsibility of the Dentist In Maxillary Sinusitis*

By CHALMERS J. LYONS, D.D.S., Ann Arbor, Mich.

A SUMMARY

The maxillary sinus is not an isolated area, since it is connected with the other sinuses and with the nose. An infection in one may easily be transmitted to another. The lining of these air cavities is ciliated epithelium, the action of which is to remove foreign matter.

Maxillary sinusitis is less frequently caused by oral conditions than is generally thought, and treatment by way of the oral cavity is to be discouraged, since entrance by means of the canine fossa is more conducive to success.

X-rays are the best means for diagnosis, but dental films, except to determine the condition of the teeth and process, are of little value. A head plate (front view) should be made, and this should reveal the condition of all the sinuses.

In a case where only one maxillary sinus is affected, it is proper to suspect the teeth. When two or more of the sinuses are affected, the dentist should keep his hands off and refer the patient to a rhinologist. Transillumination will not furnish a conclusive diagnosis, though it may be relied upon when it shows a negative condition.

When an opening into the antrum is the result of an extraction, the opening should be closed at once and operative procedure instituted by way of the

canine fossa. The closure may best be effected by means of the Dunning flap operation. Merely puncturing the antrum is of little value and the opening should be large enough so that an unobstructed view may be obtained of the cavity.

Opening into the antrum has been regarded altogether too lightly, and it must be remembered that, once the lining of this cavity has been interfered with, the antrum will never return to normal. The ciliated epithelium is replaced by scar tissue, and the function of the former is lost.

Consequently a careful diagnosis should be made before the antrum is operated upon. When a root is lost and it is suspected that it has been pushed into the maxillary sinus, it is far better to wait and have an x-ray taken so that its exact position may be determined.

With a chronic sinusitis the first thing to do is to remove the cause, and when this is done the case will clear up in about ten days. When certain cases have been treated over a period of weeks or even months, it only means that the causative factor has not been eliminated. But, although the symptoms may appear in the antrum, it does not necessarily mean that the disturbing factor is situated in that cavity. This shows the necessity for a careful diagnosis.

Closer cooperation is urged between the dentist and the rhinologist, because

*Report of a paper read before the Section on Oral Surgery of the First District Dental Society, New York, December 10, 1929, at the Fifth Better Dentistry Meeting.

those cases due to oral conditions are best treated by the dentist, while the rhinologist is better able to handle more extensive complications.

John Oppie McCall to be Director of the Guggenheim Dental Clinic

The Murry and Leonie Guggenheim Dental Clinic, which has completed plans for a large dental clinic for children and a school for dental hygienists at 422-428 East 72nd Street, New York, and which proposes, on the completion of the central clinic building, to extend its mouth hygiene work for needy school children into other sections of the city, has appointed John Oppie McCall, D.D.S., as Director of the Clinic. Dr. McCall will take charge of the Clinic on the completion of the 72nd Street building.

Dr. McCall received the degrees of B.A. from Yale University in 1901 and D.D.S. from the University of Buffalo in 1904. After practicing for some years in Binghamton, he became a specialist

in periodontia and a teacher of chemistry and periodontia in the Dental Department of the University of Buffalo. He has been practicing in New York since 1925 and is Professor of Periodontia at the New York University College of Dentistry. Dr. McCall is a former president of the American Academy of Periodontology, co-author of a textbook on *Clinical Periodontia*, and author of numerous scientific papers. He is a Fellow of the American College of Dentists and of the Academy of Dentistry and was the first Chairman of the Oral Hygiene Council of the New York State Dental Society, which conducted an active propaganda for dental surveys in the public schools.



Joint Meeting of Physicians and Dentists

The marked extension of the fields of practice common to medicine and dentistry witnessed by the past decade has created a growing need for a closer relationship between the two professions. Recognizing this, and to promote such closer relationship, the Medical Societies of the Counties of Kings and of Queens and the Second District Branch of the Dental Society of the State of New York have arranged a joint meeting to be held in the building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn, N. Y., during the afternoon and evening of March 10, 1930.

For this occasion there is being gathered from throughout the country the best available talent for the program, so as to present to the physician and to the dentist various important phases of medical and dental interdependence and opportunities for coordinating their common interests. A medico-dental meeting on such a large scale is pioneer in character and, it is believed, will do much for the progress and development of the interrelationship of the professions.

The immediate future will surely witness a more intimate relation of medicine and dentistry and an extension of cooperative movements which promise to become national and even international. We should look forward to joint meetings not only of local medical and dental societies as a regular occurrence but of state medical and dental organizations, and even of the

American Medical and Dental Associations. With such a meeting of these Associations in 1933, it is not too much to anticipate an International Medical and Dental Congress in New York in 1935 or 1936.

The effect of such a cooperative movement upon the practice of medicine and dentistry both in this country and throughout the world will be most profound and far-reaching and will benefit countless millions by the better service each of the professions will be enabled to render.

A cordial and urgent invitation is extended to all practitioners of medicine and dentistry to attend the meeting called for March 10th to arouse the interest and set into operation the activities of local, state, national and international medical and dental organizations along cooperative lines.

PROGRAM

2:30 P. M.

The Cooperation of the Physician and the Dentist in the Recognition of Disease

THE DENTIST'S VIEW-POINT

Sterling V. Mead, D.D.S., Washington, D. C., Professor of Oral Surgery and Director of Research, Georgetown University Dental School.

3:00 P. M.

THE PHYSICIAN'S VIEW-POINT

George M. Dorrance, M.D., Philadelphia, Pa., Professor of Maxillo-

Facial Surgery, University of Pennsylvania Dental School.

3:30 P. M.

DISCUSSION

Harold J. Leonard, D.D.S., New York, N. Y., Professor of Preventive Dentistry, Columbia University Dental School.

3:45 P. M.

Gerald S. Shibley, M.D., New York, N. Y., Physician at Presbyterian Hospital.

4:00 P. M. - 4:15 P. M.

GENERAL DISCUSSION

4:15 P. M.

What Justifies the Physician and the Dentist in Advising the Extraction of a Tooth?

THE PHYSICIAN'S VIEW-POINT

Gilman Osgood, M.D., Rockland, Mass., County Medical Examiner.

4:45 P. M.

THE DENTIST'S VIEW-POINT

Elmer S. Best, D.D.S., Indianapolis, Ind., Editor of *Dental Survey*.

5:15 P. M.

DISCUSSION

Henry S. Dunning, M.D., D.D.S., New York, N. Y., Professor of Oral Surgery, Columbia University Dental School.

5:30 P. M.

Harold S. Kent, D.M.D., Boston, Mass., Instructor of Oral Surgery, Harvard University Dental School.

5:45 P. M. - 6:00 P. M.

GENERAL DISCUSSION

6:30 P. M.

Dinner—Unity Club. There will be prominent guest speakers.

8:30 P. M.

Oral Conditions and General Health

THE DENTIST'S VIEW-POINT

Boyd S. Gardner, D.D.S., Rochester, Minn., Chief Dental Surgeon, Mayo Clinic; Associate Professor of Dental Surgery, University of Minnesota.

THE PHYSICIAN'S VIEW-POINT

Joel T. Boone, M.D., Washington, D. C., Lieutenant Commander, U.S.N., Physician to the White House.

DISCUSSION

Horace M. Davis, D.D.S., Baltimore, Md., Professor of Exodontia, Baltimore College of Dental Surgery.

Emanuel Lipman, M.D., New York, N. Y., Consulting Physician, Mount Sinai Hospital.

GENERAL DISCUSSION



American Dental Association Meeting

Denver, Colorado, July 21-25, 1930

THE ROMANTIC WEST CALLS TO DELEGATES

Colorado presents a pageant of modern American life against the gorgeous tapestry background of pioneer times. When the delegates to the Seventy-second Annual Session of the American Dental Association gather in Denver next July, they will see a city such as

office buildings now crowd the skyline, within the memory of men now living stood blatant dance-halls and gambling dens of the gold rush. These very pavements resounded to the footfalls of booted, bearded gold-seekers.

Where street after street, tree-lined



PIKE'S PEAK NEAR WOODLAND PARK

America alone knows, where scarcely four score years ago there was a wilderness.

Here, where the streets now are thronged with motor cars, not so long ago the pounding hoofs of the pony express beat their stirring staccato.

Here, where bank and store and

and beautiful, now is filled with fine homes, stately churches, great schools, but a brief time past roved the Indian, the mountain men and the trappers.

Back in those towering mountains where nature's vast architecture has achieved its greatest grandeur are the

Gold Towns, Central City, Black

Hawk, Nevadaville, Idaho Springs, towns whose very names fired the imagination of the nation in the '60's and set those migrating thousands upon the trail of the gold rush. There, too, are the later bonanza towns, Leadville and Creede and Aspen, which poured forth their millions into the coffers of the country.

In the south still are to be seen, in the Arkansas Valley, the crumbling ruins of Bent's Fort, built just 100 years ago, and which for a quarter of a century thereafter was the one spot of civilization in the vast wilderness.

In the north, at Virginia Dale, is the one station of the Overland Stage route still standing in the country, where Brutal Jack Slade presided as a tyrant over a petty monarchy. In the west is Meeker, where Nathan Meeker, Horace Greeley's trusted lieutenant, was butchered by his vengeful Ute Indian charges.

Wherever the visitor turns in Colorado there is a reminder of those stirring times of the pioneer. Nowhere in America are the old and the new so closely interlinked.



American Dental Association Meeting

Denver, Colorado, July 21-25, 1930

HOTEL RESERVATIONS

In securing hotel reservations for the 1930 Session, consult the hotel rate-sheet and fill out the blank application below. Mail immediately to the hotel you wish to patronize. The hotel will then advise you of the reservations which they have made for you. Kindly indicate second and third choices.

Please remember that a reservation constitutes a contract with the hotel to provide you with the accommodations you desire. If you find it impossible to carry out your part of the contract, please write or wire the hotel releasing it.

HOTEL	ROOMS	SINGLE WITH BATH	DOUBLE WITH BATH	SINGLE WITHOUT BATH	DOUBLE WITHOUT BATH
Adams, 18th and Welton	115	\$3.00-\$5.00	\$4.00-\$6.00	\$2.00-\$2.50	\$3.00-\$4.00
Ambassador, 1728 California	92	2.00	2.50	1.50	2.00
Albany, 17th and Stout	300	3.00- 6.00	5.00-10.00	2.00- 3.00	4.00- 6.00
Argonaut, 233 E. Colfax	160	4.00	5.50	2.00	3.00
Auditorium, 14th and Stout	200	2.00- 3.50	3.00- 5.00	1.50- 2.00	2.50- 3.00
Ayres, 1441 Logan	75	3.50 up	5.00- 6.00	2.50	4.00
Brown Palace, 17th and Tremont	300	5.00 up	8.00 up	....	....
Colburn, 10th and Grant	100	3.50- 5.00	5.00- 8.00	....	....
Colorado, 17th and Tremont	100	2.50- 3.00	4.00- 5.00	1.50- 2.00	2.50- 3.00
Cosmopolitan, 18th and Broadway	460	3.00- 5.00	5.00-10.00	1.50- 2.00	2.50- 4.00
Crest, 1924 Welton	114	2.00 up	3.00 up	1.50	2.00
Edelweiss, 1651 California	76	3.00	4.00	2.00	3.00
Harvard, 501 E. Colfax	60	2.50	3.50	1.50	2.50
Kenmark, 530 17th	120	2.50- 3.50	4.00- 6.00	1.50- 2.50	2.50- 4.00
Lancaster, 1765 Sherman	75	2.50	3.00- 5.00	2.00	2.50
Marquette, 1725 Curtis	62	2.00	4.00	3.00	3.00
Mayflower, 1710 Grant	80	2.50- 3.50	3.50- 5.00	1.50- 2.00	3.00- 3.50
Midland, 1106 17th	70	3.00	4.00	1.50- 3.00	2.00- 3.00
Mills, 1321 Logan	60	2.50	4.00	1.50	2.00
Newhouse, 1470 Grant	77	3.00	5.00	2.00- 2.50	3.00- 3.50
Olin, 1420 Logan	125	2.50- 4.00	6.00	....	....
O'Neill, 1407 Stout	60	2.00	3.50	1.50	2.50
Oxford, 1612 17th	250	3.50	5.00	2.00	3.50
Page, 1320 Stout	65	2.00- 2.50	3.00- 3.50	1.50	2.00
Park Lane, 450 S. Marion	....	....	10.00	....	....
Plaza, 330 15th	60	2.00- 2.50	3.00- 3.50	1.50	2.00- 2.50
Sears, 1755 California	94	2.50- 3.00	3.00- 8.00	2.00	2.50- 3.00
Shirley-Savoy, 17th and Broadway	400	3.00- 5.00	5.00- 8.00	2.00- 2.50	3.50- 4.00
Standish, 1530 California	125	2.50	3.50	1.50	2.50
Wellington, 1450 Grant	75	....	3.50	....	....
West, 1337 California	112	2.50	3.50	1.25-1.50	2.00- 2.50
Wynne, 1431 California	100	2.00 up	3.00 up	1.50	2.00
West Court, 1415 Glenarm Place	129	2.50 up	3.00 up	1.50	2.00

MAIL THIS APPLICATION DIRECT TO THE HOTEL

HOTEL RESERVATION

AMERICAN DENTAL ASSOCIATION, DENVER, COLORADO, JULY 21-25, 1930

.....Hotel....., 1930
Denver, Colorado.

Please reserve sleeping room accommodations noted below:

.....Room(s) with bath for.....people. Rate per day desired \$.....

.....Room(s) without bath for.....people. Rate per day desired \$.....

Second choice.....Third choice.....

Please confirm this reservation to applicant. I further agree to notify the hotel at once in the event I am unable to use this reservation.

Important to Hotel Manager.—In the event you cannot accept this reservation, please forward this application at once to Dr. I. R. BERTRAM, CHAIRMAN HALLS AND HOTELS, 1222 Republic Bldg., Denver, Colorado, who will attend to its assignment.

Regarding Dental Libraries and Dental Bibliography

In order to facilitate the work of the Commission of Documentation of the Fédération Dentaire Internationale in preparing a complete list of known dental libraries, whether private, in colleges, medical or public libraries, the cooperation of all those interested will be appreciated.

Please forward to the undersigned the name, place, type and location, and approximate number of volumes. It is hoped that within a short time a new bibliography of all dental books that have been published will be compiled.

When the active work is completed, every library will be sent a preliminary copy for corrections and additions. A "key number" will be assigned to each library so that there will be some idea of where a desired volume can be found and the library can be easily identified.

By supplying this information the work of the Committee will be greatly aided, especially in foreign countries.

B. W. WEINBERGER, D.D.S.,
119 West 57th Street,
New York, N. Y.

Caught!

In the February issue of THE DENTAL DIGEST we published a letter from Florida describing the activities of a man who has succeeded in getting various members of the medical and dental professions to cash checks for him. As we go to press, a representative

of the "Three Pay Sales Corporation" has informed us that this gentleman, whose name is Jack Bistrong, alias Jack Schneiderman, is now a resident in the State Penitentiary at Richmond, Virginia. Not at any time has he been connected with the "Three Pay Sales Corporation."



DIGESTS

THE MECHANICS OF ROOT-CANAL TREATMENT

By EDOUARD M. HALL, D.D.S., F.A.C.D.

Proper diagnosis by means of mouth examination, correctly made x-rays, electric pulp-testing and transillumination is necessary in locating and eliminating foci of infection.

Surgical asepsis is of the utmost importance, and the root-canal filling must seal the canal throughout its full length. Next to asepsis is the measurement control of instruments in order to avoid trauma to the apical and peri-apical tissues. It is not safe to use tissue-destroying drugs during treatment.

Treatment should not be undertaken without the aid of x-rays, and diseased teeth should not be treated when the patients are sick.

The apical foramen should not be enlarged nor instrumentation or filling carried beyond the cemento-dentinal junction. Once treatment has been started, saliva should never enter the canal.

Success is proportionate to the mechanical excellence of the operation in terms of surgical asepsis, control of instrument trauma and chemical irritation, and the complete filling of the root canal up to but not beyond the cemento-dentinal junction.—*The Journal of the American Dental Association*, January, 1930.

THE AMALGAM FILLING

By O. G. L. LEWIS, D.D.S.

The author states that no one material possesses all the qualifications of an ideal filling, and that when the proper technic of using amalgam has been developed, it will prove to be most satisfactory.

The greatest percentage of failures are due to lack of proper cavity preparation, failure to remove all carious tooth structure and neglect in sterilizing the cavity. There is also carelessness in placing the matrix, resulting in the leaving of large overhangs. Proper amalgamation and packing are essential.

In determining when and where to use amalgam the following should be taken into consideration: the time available for the operation, the position of the tooth in the mouth, the position of the cavity in the tooth, the condition of the tooth, the age and health of the patient, and the economic factors.

Amalgam has been classified as cheap by both dentists and patients, but when, as in the majority of cases, it is improperly used, then it is very expensive. In children's dentistry it is invaluable.—*The Dental Cosmos*, January, 1930

DEATH FOLLOWING GAS ANESTHESIA

The patient, a laborer, had seventeen teeth extracted at one sitting under nitrous oxid and oxygen anesthesia at the Dental Clinic of the University of

Toronto. A general examination showed no contraindication to the operation. No unfavorable symptoms were evidenced during the anesthesia, and the teeth were removed without difficulty.

When the patient showed no signs of returning consciousness, he was given oxygen and placed on a couch. A physician was called who thought it might be a case of hysteria, and the patient was removed to a hospital. He was still unconscious and was muttering and rolling around. The blood pressure, heart beat and respiration were normal, and the color was good. The spinal fluid showed the presence of a glutinous material, and a blood examination gave the white cells as about 12000.

For the first few days he took liquid food and then refused everything. Irregular temperatures set in, and evidences of pneumonia began to appear. At the end of ten days he died with all the symptoms of pneumonia and without having once regained consciousness.

Autopsy showed a definite encephalitis, but the pathologist believed that death was due to pneumonia. However, it was thought that the inflammation of the brain might have been aggravated by the anesthetic. The jury brought in a verdict of death from

causes unknown.—*Dominion Dental Journal*, December, 1929.

TEETH AND TRIGEMINAL NEURALGIA

By PROF. DR. MED. MAX MELCHIOR

So-called neuralgiform facial pains or false neuralgias may possess the same characteristics as true neuralgias. Often they may be confused to the detriment of the patient. Generally the true idiopathic neuralgias show a peripheral cause often found in the dental system.

The extraction of teeth can, in various ways, cause the development of pathologic changes within the jaws, and these in turn give rise to neuralgias many years later. In certain rare cases dental neuralgias may be referred to other nerves than the trigeminal.

The diagnosis of dental neuralgias is difficult and necessitates a careful examination not only of the teeth but also of the jaws, and special attention should be given to edentulous areas. If the dental cause is found, the prognosis is good, since its removal, though it may have existed for many years, in the majority of cases will lead to complete recovery.—*The International Journal of Orthodontia, Oral Surgery and Radiography*, December, 1929.

Foreign Dental Literature

Edited by JOHN JACOB POSNER, LL.B., D.D.S., New York, N. Y.

PATHOLOGY OF THE PTERYGOMANDIBULAR SPACE

By PROF. HANS MORAL, Rostock, Germany

The pterygomandibular space is

bounded externally by the inner surface of the ramus, on the inside by the internal pterygoid muscle, and above by the base of the brain. A portion of the parotid gland runs into the pos-

terior part of the space, and for the rest it is filled with loose connective tissue. In this area also are found the mandibular nerve, the inferior dental artery and the lingual nerve.

Abscess and swelling are frequently seen in this area, also light infection or hematoma, and fragments of needle broken during mandibular anesthesia. So many thousands of injections are made in the mandible at the mandibular foramen that numerous cases of swelling and infection follow this form of anesthesia.

A case is reported of a patient who went to a dentist and had an injection for the extraction of a tooth. Considerable pain followed the extraction. The day after the operation the patient was unable to open her mouth. Examination of the point of the injection showed redness and inflammation. The tissues were swollen. The temperature was high and the general condition of the patient showed a picture of infection. A needle was inserted into this area, and the plunger of the syringe pulled back. A dark, yellow-brown fluid was pulled into the syringe. A brown color denoted streptococcus hemolyticus infection. A long vertical incision was made and the pus expelled. In a few days the patient was well.

The diagnosis of such cases is not difficult, and as a rule they get well quickly. The two important symptoms in these cases are tenderness in the area and swelling.

Sometimes the infection is so severe that it is impossible to get at it. The swelling is harder and firmer and the pain on pressure is more diffuse. It is dangerous to delay too long, and when

an incision is made it should be a liberal one.

There are also cases of light infection where the solution or the point of the injection has not been entirely free from bacteria. Slight trismus, pain or swelling and difficulty in swallowing, with slight rise in temperature, are some of the noticeable accompaniments of this condition. These cases usually clear up in a week, as the body is able to take care of these difficulties. Special therapy is not necessary. Dry, warm heat externally and hot mouthwashes usually suffice. If a hot irrigation of one or two quarts of water is allowed to run over the affected parts, it will be soothing and help to relieve the trismus.

The author believes that hematoma occurs in 10% of mandibular injections as a result of injury to blood-vessels during the introduction of the needle. These cases ordinarily clear up by themselves upon the absorption of the exuded blood. There are practically no symptoms. In order to be sure that the needle has not entered a blood-vessel, the syringe plunger is pulled back a trifle and, if the novocain stains red, a vessel has been entered and the needle is immediately withdrawn.

A case involving the pterygomandibular space was baffling to the author until it was discovered that it originated in the tonsils. The teeth were not involved.

In another case trismus and pain and a swollen cheek were thought to be due to the teeth, but it finally transpired that the case was really one involving inflammation of the parotid gland.—*Zeitschrift für Stomatologie*, November, 1929.

TESTING THE EFFICIENCY OF VARIOUS DRUGS USED IN DENTISTRY FOR STERILIZATION

By THEODOR DOBKOWSKY, of the
Dental Clinic, Magdeburg,
Germany

The author believes that dentistry is firmly allied with bacteriology, and that too little attention is paid to the importance of this subject. It must always be borne in mind that dental instruments are constantly in contact with various bacteria. If all the organisms are destroyed, we have complete sterilization, or we may have disinfection with the elimination of pathological bacteria.

The commonest method of sterilization is boiling. Five minutes will kill bacteria, but for complete sterilization fifteen minutes is needed. All attempts to disinfect the mouth have failed. All that can be done is to cut down the number of bacteria or reduce their virulence.

It is strange that wounds following extraction and surgery heal so nicely when you consider the close contact which exists with infective organisms. Yet it is the duty of every dentist to take precautions so that instruments are sterile.

In conservative dentistry there is much to be done in destroying bacteria. For this purpose a disinfectant which merely hinders the growth of bacteria, but does not kill, is not safe. In root-canal work such bacteria may regain virulence when surrounding conditions again become favorable to growth.

The author devotes himself to an examination of the various bacteria

usually found in the mouth, and which may be carried to innocent patients through infected instruments. They are chiefly staphylococcus, streptococcus, pneumococcus, and the spirochete pallida, the organism of syphilis. When the bacteria are allowed to dry, they are much more difficult to destroy.

The requirements of an acceptable disinfecting agent are as follows:

- (1) It must destroy pathogenic bacteria in a short time.
 - (2) It must not be complicated.
 - (3) It must not injure the instruments despite long immersion.
 - (4) It must be economical.
 - (5) Its taste and smell must be agreeable.
 - (6) It must not irritate the skin.
 - (7) It must not discolor skin or instruments.
 - (8) It should not be a poison.
- There are three classes of disinfectants to be considered:
- (1) Formaldehyde derivatives.
 - (2) Phenol and cresol group, such as phenol, lysol.
 - (3) Chlorin and oxygen-liberating groups, such as chloramine.

The disadvantage of the first two groups is that they are poisonous. Further, they are irritating to the skin and discolor instruments.

Chloramine is an agent with powerful germicidal action, comparing favorably with bichlorid. Using phenol as a standard, we find that chloramine is 100 times more effective against staphylococcus and 200 times more deadly against streptococcus than phenol. Chloramine in solution of 1:5000 kills streptococcus in five minutes, and 1:1000 will do it in three minutes. In the presence of organic substances,

particularly albumin, the germicidal action of the various drugs is greatly lowered. Chloramine is particularly valuable in that it does not precipitate albumin. Most of the other germicides do.

Instruments may be placed in 0.2% solution for disinfection. They remain for an hour without injury. Glassware can be effectively disinfected in a chloramine solution. As a hand disinfectant chloramine in 0.2% is excellent.

To test the efficiency of various disinfectants, saliva was used which contained staphylococcus, streptococcus and pneumococcus. After contact with chloramine for ten minutes no growth was seen when planted. No abscess nor inflammation was produced by injecting the treated saliva into a rat, although such saliva without the influence of chloramine always produced disturbances. Chloramine should be used more extensively in root-canal work, disinfection of glassware, hands and instruments. Material infected with staphylococcus was not affected after immersion in absolute alcohol for one hour. The same material first placed in water was disinfected in two minutes by the alcohol and all the staphylococcus killed. Absolute alcohol is inferior to diluted alcohol in disinfecting power. Seventy per cent alcohol is most efficient.

Hypodermic syringes are best which can be quickly taken apart and boiled.

Rivanol and trypaflavin were tried by the author as germicidal agents, but despite their effectiveness in destroying bacteria (trypaflavin destroyed streptococcus after 24 hours in a dilution of 1:200,000) they were not acceptable, since they rusted instruments.—*Zeit-*

schrift für Stomatologie, November, 1929.

HISTOLOGICAL CONTROL OF DIFFERENT METHODS OF ROOT-CANAL CLEANING

By DR. RUDOLPH ILLIK, Vienna, Austria

(Report from the Histologic Laboratory in Vienna, Dr. Gottlieb, Director)

This histological inquiry concerned itself with the extent to which canals could be cleaned, especially the accessory root canals. Two hundred freshly extracted teeth were used, the pulps removed and the canals widened and cleaned. Both mechanical and chemical means were employed and were carried out in the customary manner. Broaches and reamers were used in the mechanical cleaning. Neoantiformin, hypochlorite and other chemicals were further aids.

The canals after widening were pumped full of filling material, and the teeth were dried and fixed in 10% formalin. It was impossible to fill all canals to the end due to constriction of the canals, in some cases of just the apical area and in others of an almost complete root. Secondary dentin closed up some canals, and they could not be cleared. When an attempt was made to open them up with broaches, perforation was the result. The apical half of the roots was used for histological examination, and sections were cut and the circular section examined. This showed how far the mechanical cleansing of the canals had succeeded.

Neoantiformin was used with aluminum powder. It was also used alone

and in conjunction with various other drugs such as aqua regia, sodium and potassium, and certain ferments. In almost all cases after widening and cleansing the canals there still remained pulp tissue in the accessory canals. The apical portion of canals which could not be reached because of an obstruction contained pulp tissue just as the accessory canals.

There are 115 accessory canals in the group, yet of all this number only three were reached by the regular technic of cleaning. After all tests were made to clean the accessory canals, another method was used in which the organic material of the canals was impregnated with silver. The canal was first widened, neoantiformin applied, and then the alkaline Howe solution introduced and pumped into the canal. It was allowed to remain for 15 minutes.

Eugenol was then carried into the canal as a reducing agent, and metallic silver thrown down. In ten teeth so treated all 13 of the accessory canals were successfully impregnated with silver. In ten of the canals a thick black silver deposit was seen. This black deposit was also visible in the dentin which surrounded the orifice of the canal as well as in the dentin surrounding the accessory canals.

In conclusion, the chlorin-generating neoantiformin showed up best, but it is not as yet a perfect agent. It has been shown, however, that all remaining pulp material can be reached by the Howe method. There are severe and frequent disturbances which are seen in the periapical area after the Howe method has been used, and this has prevented its universal use.—*Zeitschrift für Stomatologie*, November, 1929.



DENTAL ECONOMICS

Phobias

By S. J. HORN, New York, N. Y.

A phobia is a morbid fear or dread dominating the mentality. The rich man has a phobia about his money-bag, and the poor man about his job. We all have phobias more or less. No matter how peaceful and serene our lives may be ordered, there is always some fear that takes possession of us and disturbs our peace of mind.

No matter how lucrative a practice a dentist may enjoy, no matter how comfortably he is situated financially, socially, domestically, he is always troubled with at least one phobia—"the other dentist in the neighborhood." He is more concerned with the other dentist's practice, the other dentist's fees and the other dentist's gross receipts than he is about his own. When he is about to quote an estimate for dental work, the thought uppermost in his mind is, "Is it low enough to outbid the other fellow?" And as to his office hours, they also depend on the other dentist in the neighborhood, for he stands guard at his post with lights fully ablaze until the other dentist decides to call it a day or, rather, a day and a night, which is more often the case.

One can, if one chooses to look at it from that angle, glean quite a bit of humor from the situation—two poor, dog-tired souls playing the waiting game, both knowing in their heart and

soul that their energies are being wasted. The hour is late enough for all honest, God-fearing patients to be casting longing glances toward their beds and yet both tenaciously hold on until one or the other capitulates. Yes, quite humorous, but quite tragic as well. The individual who coined the saying, "Competition is the life of trade," certainly never intended it to be applied to a noble profession such as dentistry.

Employers of labor, who, as a rule, are a petty, bigoted, stubborn lot, especially when it is a question of reducing the hours of work, have recognized that an employee working eight hours a day, thereby having sufficient time for rest and recreation, can turn out a better day's work than working twelve hours a day at the point of exhaustion. Outside of a few small retailers, the dentist is the only one who still works under the *laissez-faire* regime or sweat-shop conditions. There is nothing more degrading to the profession of dentistry than the gilt lettering on some dentists' doors, "Office Hours from 9 A. M. to 9 P. M.," and underlined, as sort of an afterthought—"Sundays and Holidays until 1 P. M." One cannot but stop to wonder what crimes dentists must have committed in their past life that they should be obliged to expiate their sins in their present life. They deny themselves the joy of kissing their babies

good-night, the joy of social and domestic intercourse, and all other pleasures that ordinary humans as a gregarious lot can find. Yes, not only tragedy, but deep-seated pathos, and drama as well, all resulting from the phobia of the other dentist in the neighborhood.

Whatever money is made after a certain hour of the day at the point of exhaustion is very bad money indeed, for the one who squanders his health is as much a spendthrift as the fellow who squanders his fortune or his family's good name.

If all the dentists in any neighborhood would once and for all get together and realize that before God the Almighty made them dentists he first made them men, and that as such they can, with the intellect with which they are endowed and by cooperative effort, eradicate all existing evils confronting them, then the phobia of the other dentist in the neighborhood would be relegated to the labyrinthian depths of the subconscious, where it would sleep peacefully together with the phobia of thunder, lightning, fire, the medicine man, and all relics of the dead past, when man's chief occupation was the rummaging of dead leaves in search of bugs to feed upon.

Eight hours for work, eight hours for play, and eight hours for sleep, so the saying goes, but evidently it does not apply to the dentist plagued with phobias, for he is constantly laboring under the fear that in his absence from his office the other dentist in the neighborhood will appropriate all his patients. Of course, it is purely an hallucination and most likely a good case for the psychoanalyst.

Another very poignant evil resulting

from this phobia and adding to the already existing chaos in the dental ranks is that of inadequate fees for dental service. Ordinarily a dentist should base his fees, first, on his needs as a human being and a professional man who must maintain a certain standard of living; secondly, on the merit of his service, and, thirdly, on the financial ability of his patient. But, due to the constant fear of the other dentist, his fees are usually based on a figure that leaves him plenty of margin for safety against all competition. In doing this he immediately topples from his professional pedestal and becomes a merchandiser, selling his wares as a haberdasher sells shirts across the counter. "We have all sorts of dentistry, Madam; we have rubber plates, gold plates, silver fillings, gold fillings, and just plain fillings, etc. Which will you have?" Is there any wonder that there are so many dental shoppers? As long as the dentist is engaged in the business of selling plates, bridges, etc., just so long will he be in a competitive market, for so far as the average patient is concerned a plate is a plate, and one is as good as the other. But as soon as the dentist commences to sell himself, that is, his professional services, and the plate, bridge, or whatever it may be is merely part of the service, just so soon will the patient realize that there is such a thing as individual technic and individual skill, which stamp their mark on the work and place it far above ordinary merchandise in a competitive market.

There is no need for inhuman hours, starvation fees and silly phobias. All of these evils with their consequent discomforts result from the dentist's own

making. Any neighborhood can be made a veritable garden of happiness for all dentistry if the practitioners there will only discard their dogmatic traditional superstitions and meet each other to discuss their common problems in a frank and open manner.

In the February issue I concluded my article with a parable. Judging from the number of complimentary letters received, it evidently made its mark. I am therefore going to close this short article with another parable, which I hope will also have its desired effect.

Three travelers once met upon the highway. They were all hungry, but had not sufficient money with which to buy food. After a consultation they decided to pool their meager possessions, thus making sufficient funds for a meal which they were to share. Then the question of what to buy came up. One suggested that they buy "Tikva," another suggested that they buy "Mitsvah," and the third stubbornly refused to consider anything but "Adzoolah,"

and so the three strangers were at variance with one another. The argument became heated and they almost came to blows, when a fourth stranger came upon the scene. "What is the trouble?" he inquired. After each one told him his story the stranger smiled and said, "Give me the money and I will get what you ask for." Having received the money, he made his departure. When he returned after a short interval, the three travelers were pleasantly surprised, for, lo and behold, he carried a beautiful bunch of grapes, which was the very thing that each one wanted, only they had not understood each other!

All dentists look forward to a comfortable living from their practice, decent working hours, adequate fees commensurate with their service, and, above all, appreciation for honest-to-goodness, sincere effort. All dentists want the same thing. How soon they will get it depends upon how soon they will learn to understand each other.

220 West 42nd Street

Reducing the Hit-or-Miss Element In Granting Credit

By CARLETON CLEVELAND, D.D.S., Highland Park, Ill.

With the large amount of business that is being transacted on a credit basis it is only natural that the dentist must come in for his share of the operations of the "system". Much as he would like to, the dentist cannot always demand cash payment for his services because of the nature of his work and the mixed class of people he is called upon to serve. Some practitioners, to be sure, have succeeded in delivering themselves

from this credit hazard by practicing "credit wisdom." Those, on the other hand, who are still obliged to carry along many of their patients in order to maintain their practice will find that, by exercising a little care in the granting of credit and in keeping the amount of credit extended within the patient's ability to pay, a long step will have been taken toward preventing the accumulation of bad accounts on the books.

If the amount involved is a small one, it can usually be carried along with a reasonable degree of safety on the strength of character, reputation and moral standing of the patient. When, however, credit in larger sums is desired, then it becomes imperative that the dentist protect himself by obtaining complete information concerning the patient's financial condition and his credit rating before allowing him to become too deeply involved.

As a matter of fact, it really is more than a question as to whether the patient is financially and morally good for the amount. The paying habits of a debtor are of utmost importance to a creditor. Many an individual, fully able to settle an account at any time, prefers to "let it ride" as long as no drastic steps are taken to enforce payment.

Generally speaking, it is not a difficult matter to secure the necessary facts regarding a patient's willingness and ability to meet his just debts. An off-hand question now and then, while the patient is in the chair, will usually elicit the desired information. No matter how well acquainted a dentist and a patient may be, when it comes to the granting of credit for dental services the dental practitioner is fully justified in protecting himself against the possibility of being obliged to carry an unpaid balance for a long period with an ultimate possibility of losing the entire sum.

It should be remembered also when granting credit that the patient who defaults in the payment of his debts is usually on the lookout for new creditors and is seldom seen in those communities where he owes money. He not only

takes his business elsewhere, but also makes it difficult for his former creditors to get in touch with him. This is not so easily done in small towns as in metropolitan centers. Nevertheless it must be remembered that the automobile is a common means of transportation and will carry one a considerable distance, so that it is not at all necessary to patronize the dentist in one's own neighborhood or town or one located in the nearest business district.

Credit extension to a patient who chances to be a local merchant in the community may be based on the following:

- (1) Has he been in business long enough to determine whether or not he is successful?
- (2) Is he careful in granting credit to his own customers?
- (3) Has he much competition in the town or neighborhood?
- (4) Has he sufficient capital?
- (5) Does he keep well insured?
- (6) Does he pay his bills regularly?

When the patient is a wage-earner, an employee, a different situation presents itself. Such a person may lose his position or be obliged to move to another section of the city, or even to another town, for business reasons. The decision as to whether or not to grant credit to a salaried individual may in some measure be determined after securing the following information:

- (1) Has he a permanent position?
- (2) Is the work steady or only seasonal?
- (3) Does he own his home? If so, is it free from debt?
- (4) Does he own a car, and can he afford to own one?

(5) Does it take all he earns to support his family? Or is he unencumbered?

(6) Is his family economical or extravagant?

(7) Is he an addict—to the installment-buying habit?

The last question, though given a humorous twist, is nevertheless an important one. So easy is it to purchase automobiles, washing machines, vacuum cleaners, encyclopedias, radios and what-not on the installment plan that some folks will literally saturate themselves with indebtedness. Such people are generally not good credit risks, unless their incomes are steady, sure to continue and adequate to meet the flood of bills that come each month.

The length of time one has resided in a community or a town may be a factor to be considered in the granting of credit. As for a newcomer, it is well to

find out where he came from, why he left his former location, and in what line of business he was engaged at that place. This knowledge would aid in obtaining information as to the past credit reputation of that person.

Where a patient has been a resident of the community for some years, he is likely to have established some sort of credit reputation with other professional men and merchants in that locality. Has the family doctor had any difficulty in collecting his bills from this person? There is no reason why the dentist and the physician should not discuss such matters confidentially.

To be "credit-wise" involves merely a bit of forethought. A good point to remember is that one of the best ways of preventing losses from bad debts is never to let the bad debtor get on your books.

708 West Park Avenue



PRACTICAL HINTS

THIS DEPARTMENT IS NOW BEING CONDUCTED FROM THE OFFICE OF THE DENTAL DIGEST. TO AVOID UNNECESSARY DELAYS, HINTS, QUESTIONS AND ANSWERS SHOULD BE ADDRESSED TO EDITOR PRACTICAL HINTS, THE DENTAL DIGEST, 220 WEST 42D STREET, NEW YORK, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

SENSITIVE TEETH.—In the January issue of THE DENTAL DIGEST a question was asked by A. G. relative to overcoming the sensitiveness of a tooth from which a gold crown has been removed.

The most effective method I know would be to make a mixture of powdered silver nitrate, eugenol, zinc oxid, bismuth subnitrate and magnesium oxid. This is inserted in an aluminum shell crown, and the shell is placed on the tooth and left so for a period of from two to four weeks. There will be an appreciable loss of sensitiveness.

The shell of course must be trimmed and fitted as an ordinary crown would be, and the occlusal relationship established by simply having the patient bite into soft aluminum and thus register the cusps.

The proportions of the ingredients above are simply enough silver nitrate to approximate the size of the head of a match, three to six drops of eugenol, and sufficient powder of the bismuth and oxid combination to make a stiff paste. The zinc oxid and magnesium oxid and the bismuth subnitrate are gotten together in the proportion of

one-third each. The silver nitrate and the eugenol are of course kept in separate bottles and used as needed in the proportion outlined.

GEORGE J. BLEECHER

SENSITIVE TEETH.—In answer to A. G.'s question in the January issue of THE DENTAL DIGEST I think I have a better method than you gave. Whenever a shell crown is removed from a tooth (vital) or in the interim between cutting down a vital tooth for a bridge or crown, the tooth is covered with a thimble made of 28-gauge tin, trimmed to the gum margin and set with a paste made of oxid of zinc powder mixed with eugenol to a creamy consistency. This will set fairly hard and, when it is removed to set the crown or bridge, the tooth will be in such a condition that the cementation will not be painful. We make our own tin thimbles with a draw press, but I am sure that they can be purchased already made.

H. D. GRAHAM

BOXER'S APPLIANCE.—In the January issue of THE DENTAL DIGEST I notice that some one asks for an appliance

for a boxer. M. L. does not state his case clearly. But, as it is, he states that the patient has an upper denture, I take it for granted that the patient has his lower teeth. In this case he should take an impression of the lower teeth. Then take a mush bite of the two jaws with the upper plate out of the mouth, because the fighter would not wear the plate when boxing.

Pour a model from the lower impression, then wax it, using about two thicknesses of pink baseplate wax, also putting the wax bite on the model before waxing the lower. Then invest in one-half of the flask, leaving the top part of the bite which has the impression of the upper ridge; run plaster in the lower part of the flask up to the top part of this bite. Then pour the other half after using a separator. After the plaster has set, separate and pack with vellum rubber, which when vulcanized will give a soft covering for the lower teeth and a sort of a rest for the upper, in that way protecting the lower teeth, the upper gums and both lips.

I have made these before, making most of the fighters' mouth-pieces in this city. If the procedure is not clear enough, have M. L. write me and tell me what he does not understand about my method.

A. M. ABRAMS

BOXER'S APPLIANCE.—In answer to the question M. L. asks in the January issue of *THE DENTAL DIGEST* about an appliance that will protect the jaws and teeth in boxing, may I offer the following:

Take a compound impression of the upper jaw, pour stone model. Cover

teeth and ridges with wax, bring the wax about midway between the gingival margin and buccal fold and lingually a few millimeters past the gingival margin. The wax should be about five millimeters in thickness, all around, and smooth externally. Invest, then boil out the wax, pack, and undervulcanize so that the rubber is soft and spongy.

This can then be slipped over the upper teeth. It will fit nicely and, while offering a "shock-absorbing" quality to the impact between the jaws and between the upper jaw and external blows, *will not interfere with breathing*, which is so very important in strenuous sports.

WALTER H. JACOBS

BOXER'S APPLIANCE.—In the January issue of *THE DENTAL DIGEST* M. L. doubtless refers to a rubber bite or bit sometimes worn by boxers to enable them to keep the jaws steady and also to ease the shock of a blow to the chin. They are against regulations in some parts of the world.

The best way to make one is to take a bite impression in compound of the upper and lower teeth. This is placed on an articulator and properly locked. Then the impression material is softened and removed. You will find the jaws somewhat opened. Wax up and invest in such a manner that the upper jaw is in the top half of the flask and the lower in the lower. Pack and vulcanize with any rubber that will not harden when vulcanized. Trim with shears.

For the patient wearing an upper denture I should make a special boxing denture, an ordinary *strong* denture to fit the roof of the mouth with a soft rubber bite block to fit the lower teeth.

This could be worn anywhere and would not be against boxing regulations.

Where partial dentures are worn, the dentures are removed before using the soft rubber bite.

J. W. HAGEY

Editor, Practical Hints:

About ten days ago I took two x-ray pictures for a patient, one on each side of the mouth in the molar and bicuspid region, for examination of teeth for interproximal cavities. About two days after, the skin became quite dark where the x-rays had penetrated. There is a decided circular area on each side of the face that corresponds to the shape of the tube and can be seen at a distance of 25 feet. I might add here that I had used the same x-ray for three years without any marks appearing; also that I had two x-rays taken for myself on the same day and no marks appeared on my face. This darkened area has remained on the patient's face for over a week and still appears to be just as dark, if not darker.

The patient's face was exposed to an ultra-violet ray lamp for ten minutes the night before, but the whole face was exposed and I can see no reason for a small area being marked.

Could certain chemicals in cold creams or powders have anything to do with the markings? Could you suggest anything to remove the dark areas, or do you think they will gradually fade away?

L. C. S.

ANSWER.—Some people are more susceptible than others to the x-ray and ultra-violet rays. The patient may be one of these. The exposure to the ultra-

violet rays may have been enough so that the x-ray caused a tanning or burning of the skin. This would account for the fact that the area corresponds to the shape of the tube.

In all probability the areas will disappear with no bad effect, but, to be on the safe side, it might be well to consult a physician, especially a skin man. Great care should be taken in regard to future exposures for this patient.

Editor, Practical Hints:

Can you help me with this case?

The upper teeth were extracted last July and the lowers last September. The patient had a bad case of pyorrhea, and some of the sockets required considerable treatment.

I inserted the upper and lower dentures on October 15th, while the ridges were still temporary, and the patient did nicely from the start and had not missed a meal with them. The upper teeth were very tight when first placed but now drop some at times when laughing or on opening the mouth, but he still controls them fairly well. I re-seated the uppers with compound three weeks ago, and this has not been made permanent yet.

The gums gave him no trouble for some time, and he could keep the dentures in continuously, but for some weeks past his gums have become so tender that he has to take the teeth out. There are no sore spots, but the entire tissue feels scalded. If he sleeps with them in, he cannot eat his breakfast on account of the tenderness. If he puts them in to eat, he has to remove them an hour and a half after meals. If he wears them to work, they must come out by the middle of the forenoon. The

patient says that by taking them out two hours before eating he can eat with them, but he must overcome the tenderness in this way.

I believe it is the rubber, but, if so, what rubber can I use with any assurance that the trouble will be overcome?

I believe new plates at this time will be permanent, although the ridges are still rough and of course subject to much change because of the pyorrhea.

F. M. W.

ANSWER.—For many years it was believed that sore mouth was due to the kind of rubber used, and in some instances this may be true, but it has also been found that a great deal of the soreness is due to the roughness of the vulcanite. In the first instance, dark elastic rubber or one of the condensites or a gold plate may help the trouble. In the second instance, vulcanizing against tin-foil may give relief.

In not a few cases when the teeth have been extracted for pyorrhea, the ridges are resorbed in such a manner that a thin, knife-like edge remains that makes the gums very tender and the wearing of a denture almost an impossibility. The existence of this condition can be determined by the x-ray.

Editor, *Practical Hints*:

Kindly advise me if these two x-rays indicate that there is enough infection to cause a person to have dizzy spells.

C. A. B.

ANSWER.—It should be clearly understood at the start that the x-ray will not show the amount of infection and often will not even show whether it is present or not. It can only reveal the

amount of bone destruction. Not infrequently an infection capable of doing a great deal of harm will give no evidence on the film, while a relatively large area may be in the process of regeneration and consequently be in a healthy condition.

In each of the x-rays there is an area that resembles a retained root. These should be removed, though it is impossible to say that this operation will have a beneficial effect on the patient's symptoms.

Editor, *Practical Hints*:

I shall appreciate your prompt reply to the following queries:

What methods do you advise for the care and sterilization of burs, saliva tubes and carborundum points?

What procedure do you advise, as far as impression-taking is concerned, where a denture is to be made immediately after extractions?

O. E. R.

ANSWER.—Burs, saliva tubes and carborundum points should be cleaned with soap and water and then sterilized with the other instruments. A stiff brush may be used in the preliminary cleaning of the burs.

In the January 1929 issue of *THE DENTAL DIGEST* is an excellent article on *Immediate Denture Service* by Miller.

Editor, *Practical Hints*:

I have a case of a lady about 40 years of age who has diabetes, and who about eighteen months ago had to have her teeth extracted. I first made her a set of teeth shortly after the extraction, which of course loosened and was re-

made after about a year, and I have made one since which at the time seemed to fit with perfect adaptation, but in a month or so got very loose.

Does the diabetes cause tissue change enough to make this difference, or what might cause this trouble? Do you think she will always have this same trouble?

E. E. L.

ANSWER.—The retention of an upper denture is dependent to a great degree

upon the tone of the tissues, and there is no doubt that diabetes would have the effect of lowering the resistance.

The diabetes may cause unusual tissue changes, but even in normal cases the resorption in some patients is more rapid and more pronounced than in others. If a denture fits too tight at first, then resorption is apt to be more rapid. It will be well to make the dentures of a material that can be easily rebased.



[CHOICE OF ANESTHETIC]

No single anesthetic is best adapted for all cases, but there are operators who have a decided preference for one and who are inclined to condemn the use of any other not only in their own practice, but also in the hands of others. This is an injustice: the successful operator selects the anesthetic best adapted to the case, the one by which the patient will receive the greatest benefit.

—MILLER.

DIETETICS and HEALTH

A Scientific Menu

(George Wood Clapp, D.D.S., conducted a class in Dental Office Management in Pittsburgh, Pa., January 20-28, 1930. A considerable part of the class instruction consisted of outlining principles of sound nutrition in such way that they could be understandably presented to patients in relation to dental health. At the closing session of the class the Dental Health Study Club was organized and held its initial banquet with a menu which was not only scientifically balanced but very enjoyable. It is given below. Some of the class members are giving copies of this menu to selected patients. Any society which desires to use this menu is welcome to do so, giving proper credit to the Dental Health Study Club. If this proves interesting to readers, other menus may be published in the future. May we hear from you as to whether you are interested?)

Initial Dinner

The Dental Health Study Club

ROOSEVELT HOTEL, Pittsburgh

January 28, 1930

Menu Scientifically Arranged by RUTH W. FISHER, Food Consultant

800 CALORIES

CLEAR TOMATO SOUP

Tomatoes have minerals and three vitamins.
You pick them from vines or buy them in tins.

CELERY CURLS

These didn't come from pretty girls;
Let's call them vegeto-mineral curls.

FILET MIGNON

Plenty of protein, sound tissue to build,
Fat to make energy when it's distilled.

NEW PEAS IN TURNIP CUPS

Peas grow in the sunshine, turnips in the ground.
In starches, fats and minerals, together they abound.

TOASTED WHOLE WHEAT BREAD STICKS

Bread is called the "staff of life,"
For "nuts" on food 'tis the "staff of strife."

LETTUCE, CARROT, CABBAGE AND RAISIN SALAD

Thin leaves green with chlorophyl,
carrots and raisins, too,
Bring vitamins from sunshine
and mineral salts to you.

ICE CREAM WITH ORANGE SAUCE

Ice Cream is for the thin man;
if you are getting stout,
Its proteins, fats and minerals
will have to be left out.

COFFEE

To close our meal with coffee
to all will fitting seem.
If you are constipated, no sugar and no cream.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All communications should be addressed to Elsie Pierce, care of
THE DENTAL DIGEST, 220 West 42d Street, New York, N. Y.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT-CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR GREATER EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE. YOU MAY HELP MANY GIRLS WHO ARE BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. PERHAPS YOU NEED HELP NOW. WRITE TO ELSIE PIERCE—SHE WILL HELP YOU.

Dear Miss Pierce:

For the past month I have been working as a dental assistant. I am very much interested in this work and should appreciate any information or help you may be able to give me toward becoming better acquainted with the work.

B. J. S., Long Island.

ANSWER.—To become an experienced dental assistant takes time, just as it takes time to become experienced in any other work. There are very definite reasons why certain methods of procedure should be followed in the service rendered to patients, and each dentist has his particular ways in operative procedure and his particular desires as to how the business routine conduct of his practice shall be cared for, so I should say that your "best bet" in starting out as an assistant is to learn all you can about the methods used by your employer in carrying on his work, pay attention to his wishes in those things he desires you to do, and take

every opportunity to have him show you just how he wants everything done. You cannot learn this in one month, or two, or even longer, if you have taken up dental assisting without any knowledge whatsoever of what is expected of you.

Supplementing the experience which comes to you each day in the conduct of the office, I would suggest that you read such dental literature as comes to your office, or may be in the doctor's library, on the business conduct of a dental practice, on sterilization, x-ray procedure, head anatomy, hygiene (oral and health), laboratory procedure, etc. I suggest also that you join a dental assistants' society, take their special study courses and attend the lectures and clinics, and it will not be long before your desire to be better acquainted with the work of dental assisting will be gratified.

Secure the back numbers of THE DENTAL DIGEST from your employer and read the department for dental assistants and secretaries, or borrow

these back numbers from a neighboring office or get them from the library of your assistants' society. You will find therein much material of value. If you have any particular problem, write us about it and we will do our best to help you. To attempt to tell you all that you might do as a dental assistant would take a volume of many pages, and space does not permit us to do so.

—
Dear Miss Pierce:

Your *Secretaries' Questionnaire* has been a great help to me. Your column has always answered questions and given me information that I wish.

I should like to know how to remove silver nitrate stains; also, how to remove developer solution stains.

J. G., Brooklyn.

ANSWER.—You do not state on what these stains are, so I take it you are talking about your uniforms. Common hydrochloric acid or, as it is sometimes called, muriatic acid will remove silver nitrate stains. Care should be taken to rinse the fabric of all acid immediately or it will leave a hole. A solution of bicarbonate of soda will aid to insure neutralization of the spot.

For the removal of developer stains from uniforms, soak in a 5% solution of oxalic acid or acetic acid for about two minutes, then apply a solution of calcium hypochlorite (bleaching powder). If after ten minutes the stains have not disappeared, wash the stained parts and repeat the foregoing procedure. Be sure to wash the fabric well as the final operation when the stains have disappeared.

Soap and water will remove fixing solution stains.

Dear Miss Pierce:

I can hardly wait for *THE DENTAL DIGEST* to come to the office each month so that I can read the *Questionnaire*, and I want to thank you for the fine help it has been to me. If the doctor did not take it, I should subscribe to it personally.

And now for a burning question I have wanted to ask you for a long time. Why do dentists expect young women to work for them for less than they pay their housemaids? Or for less than a girl can get in the telephone company, or as a stenographer, or as a worker in many other fields of activity? I cannot understand it and have talked it over with several girls, but we have come to no solution of the problem. Please tell us what you think.

E. M., Michigan.

ANSWER.—I must confess, E. M., that I cannot answer your question. It would seem that professional service which entails a wide versatility, capacity, initiative, plus a certain amount of fundamental education, would be worthy of its hire, and that it would certainly be as remunerative to follow for a livelihood as the occupations you enumerate. Perhaps it is because until comparatively recently dental assistants were looked upon more as maids of all work than as dispensers of professional service, or perhaps because dentists employed so many very young girls just out of school or perhaps because so many girls who went into dental offices proved inefficient and the dentists had to keep changing assistants frequently, or perhaps because dentists as a whole have not yet realized that they cannot get the right type of help

without adequate compensation. Perhaps it is because dentists are such poor business men and do not concern themselves with the possibilities for girls in other fields of endeavor, for of course a young woman will not work in a

dental office for less than she can get elsewhere, if she is alive to her welfare.

Of course all this is supposition, and the dentists themselves would have to tell us why. Perhaps some of them will when they read your letter.

Educational and Efficiency Society for Dental Assistants, First District, New York, Inc.

The regular meeting of the Educational and Efficiency Society for Dental Assistants, First District, New York, was held on January 14, 1930. Dr. Joseph Kussey of Newark, N. J., addressed the members on *The Relation Between the Physician, the Dentist and the Dental Assistant*. He explained the use of vaccines and antitoxins in the prevention of disease and described the relation of mouth hygiene to systemic infection. Following Dr. Kussey's lecture, a clinic on the preparation of surgical accessories was presented. The second speaker of the evening, Miss Elizabeth J. MacKenzie, of the Henry Street Settlement, New York, told of the nursing service of that organization.

At the January meeting of the Clinic Club Dr. Bayne presented an interesting lecture and demonstration on filling materials.

At the Mid-Year Meeting of the Kings County Dental Society the members of the Club gave clinics on chair-assisting, secretarial assisting, inlay technic, sterilization, economy suggestions and first aid. The Clinic Club meets each third Monday evening of the month from September to May and is open to all members of the Educa-

tional and Efficiency Society. At the meetings the various phases of dental assisting are discussed and more efficient methods of office procedure evolved. Gertrude Gehm, Secretary, may be addressed: 921 Bergen Avenue, Jersey City, N. J. The next meeting of the Club will be held at the office of Dr. S. R. Eolis, 1475 Broadway, New York, on Monday, March 17, 1930, at 7:30 p. m.

A class in parliamentary procedure is now in session. Groups are being formed to study sterilization and diet and other subjects of value to the dental assistant. The meetings are held one evening each week, under the direction of competent teachers, and are free to members of the Society. Mary O'Connor, Secretary, may be reached at Cliffside, N. J., c/o Dr. Elias Reiner.

The Society meets regularly on the second Tuesday of each month, October to May, inclusive. Dental assistants employed in ethical dental offices are invited to join and to share in the many educational advantages membership offers. The organization does not conduct a registry nor is it connected with any commercial enterprise. The next meeting will take place on Tuesday,

March 11, 1930, at 8:00 p. m., at the Academy of Medicine, 2 East 103rd Street, New York. An interesting program has been arranged, with Dr. J. J.

Posner the chief speaker of the evening. A cordial invitation to be present is extended to the members of the dental profession and to their assistants.

Montreal Dental Assistants Association

The Montreal Dental Assistants Association held its regular monthly meeting on January 20, 1930, at the McGill Dental Faculty, McGill University.

The weekly study class is proving very successful. Both dentists and dental assistants are welcome to attend the meetings of this class.



EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

Everybody will be older tomorrow.

What if the thermometer does drop to zero.
That's nothing.

Well, anyway, the restlessness of the younger generation is not caused by woolen underwear.

I eat my peas with honey,
I have done so all my life;
They do taste kind of funny.
But it keeps them on the knife.

(Prospective Buyer)—What an odd room this is, with no ceiling and open to the sky.

(Agent)—Yes, it's the shower bathroom. The house was built by a Scotchman.

It has been said, in effect, that psittachosis, or parrot fever, need not be greatly feared here in New York as we have a very efficient Polyclinic hospital so handy.

AS THE EDITOR TELLS IT

A reader stopped us on the street the other day to tell us how much he liked our paper. He said: "I always read your paper the last thing before going to bed. Then I have nothing on my mind."

(Hubby)—What are you crying for now?

(Wife)—You've broken that promise you made me.

(Hubby)—Well, dear, stop crying, I'll make you another one.

A man took his wife to court for a separation. He told the judge that she rocks him to sleep.

The judge asked what objection he could have for being rocked to sleep?

"Well, your honor," the man replied, "you ought to see the size of the rocks."

A young man one morning wrote two letters, one to his young lady friend and the other to his washerwoman. By mistake he got them in the wrong envelopes. So, the washerwoman received the letter intended for the young lady. To the washerwoman he said "that he enjoyed himself very much the last time he saw her, and hoped to have the pleasure of seeing her soon again." But the letter that the young lady received said, "If you rumple up my shirt bosom the next time the way you did the last time, I shall not have anything more to do with you."

A Western young woman who collects antiques, recently acquired a haircloth chair, and now she knows why her grandmother wore six petticoats.

THE WRONG DOPE

"Look here, I bought a bottle of your hair restorer last night and all it's done is to raise these big lumps on my head."

"My gracious," said the beauty doctor, "we must have sold you a bottle of bust developer by mistake."

(Billy)—Papa are caterpillars good to eat?

(Father)—O, don't talk about such things at the table.

(Mother—getting curious)—Billy, why did you ask that?

(Billy)—I just saw one on papa's lettuce, but it's gone now.

(Elmer)—What's this I hear about your wife being so jealous?

(Sam)—Yes, she is the limit. If she finds a long hair from a horse's tail on my coat, she goes out and shoots the horse.

(Betty)—Auntie, was your name Pullman before you were married?

(Auntie)—No dear; why do you ask?

(Betty)—I just wondered. I see that name on a lot of your towels.

A WISE KID

"Now I lay me down to sleep,"

A little maiden said.

"If I should die before I wake,
How will I know I'm dead?"

A Londoner took a Chicago man who was visiting the big English city to see "Hamlet." "You are sure behind the times here," said the American. "I saw this play in New York four years ago."

ANOTHER FISH STORY

Two New Yorkers who were visiting in Virginia went off fishing one day, but had little luck, as the story goes. Just for a joke one of the men dipped a worm into the native likker their host had given them. The first cast caused a commotion, and after playing it carefully the line was pulled in. They found the worm had seized a four-pound pickerel and was strangling it to death.

FUTURE EVENTS

EASTERN DENTAL SOCIETY OF NEW YORK

SCIENTIFIC SESSION

Thursday Evening, March 6, 1930

Meets the first Thursday of each month from October, 1929, to May, 1930.

Meeting Place: 425 Lafayette Street, New York.

Essayist: Milton Cohen, D.D.S.

Subject: *Restoration with Porcelain* (illustrated with lantern slides).

Round Table Discussions (In Amphitheatre): 8:15 P. M. sharp.

Leader: Samuel A. Klein, D.D.S.

A series of clinics, covering the subject of *Porcelain* in detail, will begin at 7:30 P. M.

CLINICIANS

H. Spalding Both	Hyman Pines
Milton Brown	Mitchell Rosenson
M. Diamond	J. R. Schwartz
Samuel Doskow	William A. Spring
William J. Hoag	Joseph A. Viverito
William Paul	

THE DENTAL ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF SAN FRANCISCO, SCHOOL OF DENTISTRY, will hold its annual meeting at the College, March 7-8, 1930.

Preceding the general sessions there will be eight special courses. Information regarding these will be mailed on request.

A cordial invitation to attend is extended to the entire ethical dental profession.

DON J. AUBERTINE, *Chairman Publicity Committee*,
291 Geary St., San Francisco, Calif.

DR. JAMES H. DALY will be honored at a TESTIMONIAL DINNER at the New University Club, Boston, Mass., on Wednesday, March 12, 1930, in appreciation of his contribution to the dental profession during fifty years of practice.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces an open competitive examination for associate dentist.

Applications for associate dentist must be on

file with the Civil Service Commission at Washington, D. C., not later than March 12, 1930.

The examination is to fill vacancies occurring in positions of dentist and in positions requiring similar qualifications in the Federal classified service throughout the United States.

The entrance salary in the Indian service is \$2,000 a year with traveling expenses and \$3.50 a day in lieu of subsistence. In the Veterans' Bureau the entrance salaries range from \$3,200 to \$3,700 a year. Higher-salaried positions are filled through promotion.

Competitors will be rated on their education, training and experience.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the post office or custom-house in any city.

THE ASSOCIATION OF THE DENTAL ALUMNI OF COLUMBIA UNIVERSITY will hold its annual dinner and smoker at the Westminster Hotel, 73 Lenox Avenue, New York, on Thursday, March 13, 1930. Dinner will be served at 7:30 P. M. For additional information, address Harry L. Koren, D.D.S., 417 Fifth Avenue, New York, N. Y.

THE BEDOUINS OF ZETA CHAPTER, XI PSI PHI FRATERNITY, will hold their annual reunion and banquet at the Chalfonte-Haddon Hall, Atlantic City, N. J., on Saturday, March 15, 1930.

HOWARD H. SHEPLER, *Secretary*
Medical Arts Bldg., Philadelphia, Pa.
W. C. T. BAUERLE, *Chairman*

THE WESTCHESTER DENTAL SOCIETY will hold its seventh scientific session of the 1929-1930 season on Tuesday evening, March 18, 1930, at the Community Center, 122 South Broadway, Yonkers, N. Y.

A. L. Greenfield, D.D.S., Professor of Radiography, New York University Dental College, will discuss *The Interpretation of the Dental Radiograph*.

All ethical practitioners are invited to attend.

THE REHWINKEL DENTAL SOCIETY will hold its annual mid-winter meeting at the Masonic Temple Building, Chillicothe, Ohio, on Saturday, March 22, 1930.

A number of interesting essayists and clinicians

will participate in the program. The latest and most approved appliances will be on exhibit.

All ethical dentists are cordially invited.

W. G. HAMM, D.D.S., *Sec'y-Treas.*

THE ST. LOUIS STUDY CLUB OF DENTISTRY, founded in 1919 for the purpose of teaching advanced dental subjects to ethical dentists, without charge, and in continuous operation since that time, has just completed its twelfth annual term. The occasion will be marked by a clinic and dinner at the Hotel Chase, Kingshighway at Lindell Boulevard, St. Louis, on Wednesday, April 2, 1930.

The clinic, which will start promptly at three o'clock, will consist of the following subjects: Dental Ceramics, Oral Prophylaxis, Fixed Bridge Technic, Rizadontia (Root-Canal Technic), Anatomy and Dissection of the Head, Tooth Form and Cavity Preparation, Dental Roentgenology, Full Dentures, Dental Economics, Conduction and Local Anesthesia, Crown and Inlay Casting Technic, Oral Diagnosis and Diseases of the Mouth, Ultra-Violet Light and Its Application to Dentistry.

Following the clinic, a dinner will be given at 6:30 as a tribute from the students to their instructors.

Ethical members of the profession are invited to attend both the clinic and the dinner.

Bulletins descriptive of the Study Club may be had by addressing

DR. FRANK C. RODGERS
903 Missouri Theatre Bldg.,
St. Louis, Mo.

THE AMERICAN BOARD OF ORTHODONTIA, created by the American Society of Orthodontists in July, 1929, will hold a meeting at the Noel Hotel, Nashville, Tennessee, on April 7, 1930, beginning at 9 A. M.

Those orthodontists who desire to qualify for a certificate from the Board as outlined in the article entitled *The American Board of Orthodontia* on Page 50 of the January number of *The International Journal of Orthodontia, Oral Surgery and Radiography* may receive full information and application form from

DR. B. FRANK GRAY, *Secretary*
209 Post Street,
San Francisco, Calif.

THE AMERICAN SOCIETY OF ORTHODONTISTS will hold its twenty-ninth annual meeting at the Noel Hotel, Nashville, Tennessee, April 8-11, 1930.

An attractive program by outstanding essayists and clinicians is being arranged, and this meeting should be one of extreme interest to every member of the Society.

A cordial invitation is extended to all ethical dentists who are interested in orthodontia.

O. A. OLIVER, *President*,
Nashville, Tenn.
CHARLES R. BAKER, *Sec'y-Treas.*,
Evanston, Ill.

THE CONNECTICUT STATE DENTAL ASSOCIATION will hold its annual meeting at Stamford, Conn., April 22-24, 1930.

THE CONNECTICUT DENTAL HYGIENISTS' ASSOCIATION will hold its annual meeting at the Stamford High School, Stamford, Conn., April 23-24, 1930.

EVELYN J. MAHER, *Secretary*.

THE AMERICAN SOCIETY OF STOMATOLOGISTS will hold its seventh meeting at the Hotel McAlpin, New York, N. Y., May 2, 1930. A cordial invitation to attend this meeting is extended to all dental practitioners and general physicians. Members and non-members who wish to take part on the program may communicate with Dr. King S. Perry, Jeannette, Pa.

THE MASSACHUSETTS DENTAL SOCIETY will hold its annual meeting at the Copley-Plaza Hotel, Boston, Mass., May 5-9, 1930.

THOMAS K. ROSS, *President*,
280 Main St., Fitchburg, Mass.

PHILIP E. ADAMS, *Secretary*,
236 Newbury St., Boston, Mass.

THE VIRGINIA STATE DENTAL ASSOCIATION will hold its next meeting in Richmond, Va., May 12-14, 1930.

THE DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its sixty-second annual meeting at the Hotel Commodore, New York, May 12-16, 1930.

Dr. Thomas C. Swift, 1 Park Avenue, Mt. Vernon, N. Y., is Chairman of the Exhibit Committee; Dr. Harvey J. Burkhart, 800 East Main Street, Rochester, N. Y., is Chairman of the Program Committee; and Dr. J. W. Schelpert, 30 Cottage Avenue, Mt. Vernon, N. Y., is Chairman of the Clinic Committee. Any information regarding these departments should be addressed directly to the chairmen of the committees.

The first two days of the meeting will be devoted to educational clinics, and the following

subjects will be covered by the teachers designated:

Root Canal Therapy, Guy P. Bannister, Cleveland, Ohio; Arthur B. Crane, Washington, D. C.

Operative Dentistry (Inlay), W. Elliott Taylor, Frank Cole; Herbert S. Bailey, New York, N. Y.

Operative Dentistry (Amalgam), William R. Pond, Rutland, Vt.

Operative Dentistry (Gold Foil), LeRoy L. Hartman, New York, N. Y.

Ceramics, William J. Meier, H. S. Both, New York, N. Y.

Removable Bridgework, S. Marshall Weaver, Cleveland, Ohio; Milton Cohen, New York, N. Y.

Fixed Bridgework, James K. Burgess, New York, N. Y.; Emory C. Thompson, Buffalo, N. Y.

Clasp Attachments for Partial Dentures and Removable Bridgework, Forry R. Getz, Lee G. Pollock, New York, N. Y.

Partial Denture Construction, Geo. P. Phillips, Boston, Mass.; Clyde H. Schuyler, New York, N. Y.

Full Denture Construction, Arthur T. Rowe, New York, N. Y.; Frank A. Fox, Philadelphia, Pa.

Dietetics, Sherman L. Davis, Indianapolis, Ind.
Diseases of the Mouth and Their Treatment, J. L. Appleton, Jr.; James N. Aiguier, Philadelphia, Pa.

Periodontia, T. B. Hartzell, Minneapolis, Minn.; Harold J. Leonard, New York, N. Y.

Orthodontia, under direction of Joseph D. Eby, New York, N. Y.

Radiography and Photography, Ralph S. Voorhees, Rochester, N. Y.

Oral Surgery, Harold S. Vaughan, Henry S. Dunning, Adolph Berger, Leo Winter, Douglas B. Parker.

On the literary program there will be contributions by George B. Winter, St. Louis; John V. Merzhon, Philadelphia; Thomas B. Hartzell, Minneapolis; Sherman L. Davis, Indianapolis; J. L. Appleton, Jr., Philadelphia. There will be important reports from the Scientific Committee and also from the Bloomington Hospital of New York.

A banquet will be held on Thursday evening, May 15th.

There will be general clinics on Friday morning, May 16th.

During the time of the meeting, sessions of the New York State Dental Hygienists Association and of the Dental Assistants Association of the State of New York will be held.

The Executive Council will convene on Tuesday, May 13th, at 2:30 P. M.

WILLIAM C. FISHER, *President*,
A. P. BURKHART, *Secretary*,
57 East Genesee St., Auburn, N. Y.

THE DENTAL HYGIENISTS ASSOCIATION OF THE STATE OF NEW YORK will hold its tenth annual meeting at the Hotel Commodore, New York, May 13-16, 1930. An interesting program is being arranged, and a cordial invitation to attend is extended to members of the dental profession, dental hygienists and dental assistants.

BLANCHE A. DOYLE, *Corresponding Sec'y*
100 West 59th St., New York, N. Y.

THE ONTARIO DENTAL ASSOCIATION will hold its sixty-third annual convention at the Royal York Hotel, Toronto, Canada, May 19-22, 1930. A very fine program of essays and clinics has been arranged.

Ethical dentists of Canada and the United States are invited to attend as guests of the Ontario Society.

FRED J. CONBOY, *Sec'y-Treas.*
Parliament Bldgs.
Toronto 5, Ont., Canada

THE TEXAS STATE DENTAL SOCIETY will hold its fifteenth annual convention at Fort Worth, Texas, May 20-23, 1930.

A cordial invitation to attend is extended to all dentists who are members of the American Dental Association.

For information relative to exhibits write to Dr. W. H. Nugent, Chairman, 713 Medical Arts Bldg., Fort Worth, Texas.

GEORGE H. MENGEL, *President*,
El Paso, Texas.

J. G. FIFE, *Sec'y-Treas.*,
Dallas, Texas.

THE NORTHEASTERN MASSACHUSETTS DENTAL SOCIETY will hold its annual convention at the New Ocean House, Swampscott, Mass., June 9-11, 1930.

For information, communicate with

HENRY I. YALE, D.M.D., *Secretary*
Peabody, Mass.

THE INDIANA STATE BOARD OF DENTAL EXAMINERS will hold its annual meeting in the House of Representatives Room, State House, Indianapolis, Ind., June 12-16, 1930, for the purpose of examining all applicants with proper credentials. Applications should be in the hands of the Secretary one week before the beginning of the meeting.

For applications, clinical requirements and other information, address

J. M. HALE, *Sec'y-Treas.*
Mount Vernon, Ind.

THE TEXAS STATE BOARD OF DENTAL EXAMINERS will hold its next regular meeting at the Texas Dental College, Houston, Texas, on June 16, 1930, promptly at 8:00 A. M., for the purpose of examining applicants

for the practice of dentistry in Texas. Applications with photograph and fee must be in the hands of the secretary by June first.

For further information and application blanks, communicate with

MAXWELL C. MURPHY, D.D.S., *Secretary*
King's Daughters' Hospital, Temple, Texas.

THE AMERICAN DENTAL ASSISTANTS ASSOCIATION will hold its sixth annual meeting in Denver, Colorado, July 21-25, 1930.

RUTH F. ROGERS, *General Secretary*
Room 803, 223 West Jackson Blvd.
Chicago, Ill.

THE AMERICAN ACADEMY OF PERIODONTOLOGY will hold its seventeenth annual meeting at the Antlers Hotel, Colorado Springs, Colorado, July 17-19, 1930.

CLYDE C. SHERWOOD, *President*
1304 Second Natl. Bank Bldg.,
Toledo, Ohio.

C. H. GRACEY, *Secretary-Treasurer*
269 Rowena Street, Detroit, Mich.

THE AMERICAN DENTAL HYGIENISTS ASSOCIATION will hold its seventh annual meeting in Denver, Colorado, July 21-25, 1930.

AGNES G. MORRIS, *Secretary*,
886 Main Street,
Bridgeport, Conn.



